SUBSET 09 - STRUCTURAL
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DESIGNED BY:
PARSONS BRINCKERHOFF

Anthony A Moretti
Parsons
Brinckerhoff
Glastonbury, CT
2015.04.02
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/2/2015

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: 20_B14SI_3010088_S14-000.dgn

SIGNATURE/
BLOCK:

PROJECT TITLE:
NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE:
STRUCTURAL
SUBSET COVER SHEET

PROJECT NO. 301-0124
DRAWING NO. S14-000
SHEET NO. 09.01

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GENERAL

1. THESE DRAWINGS ARE INCOMPLETE UNLESS ACCOMPANIED BY THE CONTRACT SPECIFICATIONS.
2. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS. CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS AND ANCHORS.
3. THE GENERAL SCOPE OF THE STRUCTURAL WORK IS A TWO-STORY STEEL FRAMED BUILDING ON A PILE SUPPORTED FOUNDATION. THE ROOF STRUCTURE IS TYPICALLY STEEL DECK ON PREFABRICATED STEEL JOISTS. A DESIGNATED AREA OF THE ROOF IS DESIGNED TO SUPPORT HVAC EQUIPMENT. THE SECOND FLOOR STRUCTURE IS CONCRETE ON STAY-IN PLACE FORM DECK SUPPORTED BY WIDE FLANGE STEEL BEAMS. THE LATERAL LOAD RESISTING SYSTEM IS COMPRISED OF STEEL MOMENT FRAMES IN THE LONG DIRECTION AND STEEL BRACED FRAMES AND SHEAR WALLS IN THE SHORT DIRECTION. THE GROUND FLOOR SLAB IS A STRUCTURAL SLAB CAST ON EARTH FORM. DUE TO THE ELEVATION DIFFERENCE BETWEEN THE FINISHED GROUND FLOOR AND SURROUNDING AREA, THE CONSTRUCTION INCLUDES RETAINING WALLS, RAMPS, STAIRS AND LOADING DOCKS.
4. REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO THE ARCHITECT/ENGINEER PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.
5. DETAILS ENTITLED OR NOTED AS 'TYPICAL' APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE.
6. ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS XX'-XX' IN REFERENCE TO DATUM ELEVATION (0'-0") WHICH IS THE FIRST FLOOR FINISHED ELEVATION AT 16.0 FT, NAVD88.
7. VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE WORK. TAKE ALL MEASUREMENTS NECESSARY FOR PROPER FABRICATION, ALIGNMENT, AND INSTALLATION OF STRUCTURAL MEMBERS AND COMPONENTS.
8. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.
9. ALL ITEMS SHOWN IN THESE DRAWINGS ARE NEW CONSTRUCTION UNLESS SPECIFICALLY NOTED AS PART OF ANOTHER DESIGN PACKAGE.

LOAD CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING:
   A. THE CONNECTICUT 2005 STATE BUILDING CODE WITH 2009 AMENDMENTS.
   B. ASCE 7-10 - AMERICAN SOCIETY OF CIVIL ENGINEERS, 2010 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
   C. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, FOURTEENTH EDITION.
   D. ACI 318-11 - ACI INTERNATIONAL 2011 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
   E. ACI 530-11, AMERICAN CONCRETE INSTITUTE, 2011, BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRCUTURES.
   F. SJI-COSP-2010, STELL JOIST INSTITUTE, 2010, CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GIRDERS.
   G. ANSI/SDC RD-2010, STEEL DECK INSTITUTE, 2010, STANDARD FOR STEEL ROOF DECK.
2. DESIGN LIVE LOADS (REDUCED AS ALLOWED BY THE BUILDING CODE):

ROOF	20 PSF, W/ 300 LB CONCENTRATED LOAD ON DECK
	150 PSF IN DESIGNATED HVAC EQUIPMENT AREA (DEAD LOAD)
MAINTENANCE SHOP	150 PSF, WITH 4000 LB FORKLIFT CONCENTRATED LOAD CHECK
LOADING DOCK	150 PSF, WITH 4000 LB FORKLIFT CONCENTRATED LOAD CHECK
MECHANICAL EQUIPMENT AREA	150 PSF
CORRIDOR (FIRST FLOOR)	100 PSF
CORRIDOR (SECOND FLOOR)	80 PSF
OFFICE AREA	65 PSF, INCLUDING PARTITIONS

DESIGN SNOW LOAD:

GROUND SNOW LOAD,	Pg	30 PSF
FLAT ROOF SNOW LOAD,	Pf	30 PSF
EXPOSURE FACTOR,	Ce	1.0
ROOF THERMAL FACTOR,	Ct	1.0
IMPORTANCE FACTOR,	Is	1.0
FROST PENETRATION DEPTH	42 INCHES	

SNOW DRIFT FOR SNOW DRIFTING AGAINST PARAPETS FOR AVERAGE LOAD OF 47 PSF OVER 17 FT WIDTH AT EDGE OF ROOF.

DESIGN WIND LOADS:
FOR MWFRS AND WALL CLADDING:

BASIC WIND SPEED,		V	125 MPH (THREE SECOND GUST)
EXPOSURE		C	
INTERNAL PRESSURE COEFF:	2 STORY AREAS	GCpi	+/-0.18 (ENCLOSED BUILDING)
	1 STORY AREAS	GCpi	+/-0.55 (PARTIALLY ENCLOSED BUILDING)

REFER TO CLADDING DIAGRAM ON SHEET S14-211 FOR WIND LOADS ON BUILDING EXTERIOR

3. DESIGN SEISMIC LOADS ARE BASED ON THE FOLLOWING DATA:

MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION, Ss = 24.3%g
MAPPED 1-SEC PERIOD SPECTRAL RESPONSE ACCELERATION, S1 = 6.2%g
SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION, Sds = 0.403
1-SEC PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION, Sd1 = 0.145

RISK CATEGORY	II
SEISMIC DESIGN CATEGORY	C
SITE CLASS	E
BASIC STRUCTURAL SYSTEM	STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
BASIC SEISMIC-FORCE-RESISTING SYSTEM	STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE MASONRY SHEAR WALLS

RESPONSE MODIFICATION FACTOR,	R = 3.0
DEFLECTION AMPLIFICATION FACTOR,	Cd = 3.0
IMPORTANCE FACTOR	Ie = 1.0
SEISMIC RESPONSE COEFFICIENT	Cs = 0.134
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
DESIGN BASE SHEAR	Cs x W

FOUNDATION

1. THE PILE FOUNDATION DESIGN IS BASED ON RECOMMENDATION BY THE FINAL STRUCTURE SOIL AND ROCK REPORT PROVIDED BY PARSONS BRINCKERHOFF, OF GLASTONBURY, CONNECTICUT, DECEMBER, 2014.
2. SITE HAS EXISTING FRANKI PILES THROUGHOUT, CUT DOWN TO ELEV. 8.0 +/- NAVD88. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ANY REMAINING OBSTRUCTIONS DURING CONSTRUCTION. PILE LOCATIONS INDICATED ON SHEETS S14-101 AND S14-102.
3. PILES SHALL BE 16" SQUARE PRECAST PRESTRESSED CONCRETE PILES. PILE DESIGN SHALL CONFORM TO NOTES 4 THRU 14.
4. CONCRETE SHALL BE AIR–ENTRAINED.
5. ALL EXPOSED EDGES SHALL BE CHAMFERED 1/2 INCH FOR SQUARE PILES.
6. ONLY PICK-UP POINTS SHALL BE USED FOR HANDLING AND SUPPORT DURING STORAGE.
7. PICK UP LENGTHS ARE DETERMINED BY PILE DESIGNER.
8. IN LIEU OF THE REINFORCING BARS PROJECTING OUT OF THE PILE HEAD, THE FOLLOWING MAY BE PROVIDED;

   1 3/8" Ø PREFORMED PLAIN HOLES OR 2" Ø HOLES FORMED WITH GALVANIZED CORRUGATED METAL MAY BE USED. AFTER DRIVING THE PILE AND CLEANING OUT THE HOLES, REINFORCING BARS SHALL BE INSTALLED AND THE HOLES SHALL BE FILLED WITH APPROVED HIGH-STRENGTH NON-SHRINK GROUT.
9. WHEN PILE CUT-OFF IS GREATER THAN 3"-0", AT LEAST 36 INCHES OF ALL THE STRANDS SHALL PROJECT INTO THE CAP TO SERVE FOR ANCHORAGE.
10. UNLESS OTHERWISE NOTED, DESIGN LOAD CAPACITY OF THE 16-INCH SQUARE PILES SHALL BE 136 KIPS COMPRESSION AND 15 KIP-FT MOMENT (LRFD) EXCLUDING DOWN DRAG FORCE DUE TO SITE CONSOLIDATION. NO MOMENT CAPACITY IS REQUIRED AT CONNECTION TO PILE CAP.
11. PILES ARE TYPICALLY NOT SUBJECT TO TENSION FORCE EXCEPT THOSE UNDER BRACED FRAMES AND THE SITE RETAINING WALL. SEE PLANS FOR LOCATIONS. TENSION CAPACITY OF THESE PILES SHALL BE 50 KIPS (LRFD).
12. PILE INSTALLATION TOLERANCE IS 2 INCHES. PILE CAP SIZE MAY CHANGE DUE TO PILE DEVIATION. IN ANY CASE, A MINIMUM 1'-9" EDGE DISTANCE TO CENTER OF PILE SHALL BE PROVIDED FOR ISOLATED PILES AND 1'-5" FOR PILE CAPS WITH MULTIPLE PILES.
13. CONCRETE DESIGN SHALL CONFORM TO THE REQUIREMENTS OF PROJECT SPECIFICATION FOR PRECAST PRESTRESSED CONCRETE PILES.
14. PROVIDE BITUMEN COATING ON PILE TO PREVENT DOWN DRAG. REFER TO PROJECT SPECIFICATIONS FOR DETAILS.
15. REFER TO SHEET S14-212 FOR MORE INFORMATION ON PILE DESIGN.

CONCRETE

1. ALL CONCRETE HEREIN IS NORMAL WEIGHT, U.N.O.
   CONCRETE STRENGTH:

A. PILE CAPS, GRADE BEAMS	f'c = 4000 psi
B. FOUNDATION WALLS AND COLUMNS	f'c = 4000 psi
C. FIRST FLOOR SLAB	f'c = 4000 psi
D. SECOND FLOOR SLAB	f'c = 3000 psi
E. ALL CONCRETE NOT OTHERWISE SPECIFIED	f'c = 3000 psi

2. REINFORCING BARS

ASTM A 615 GRADE 60, DEFORMED	fy = 60 KSI
WELDED WIRE REINFORCEMENT	fy = 65 KSI

3. REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 301. DEVELOPMENT AND SPLICE LENGTHS ARE IN TENSION, CLASS B, UNLESS OTHERWISE INDICATED.
4. CONTINUOUS REINFORCING IN WALLS AND SLABS MAY BE SPLICED, AS REQUIRED, PROVIDING BARS ARE OF THE LONGEST PRACTICABLE LENGTH AND SPLICES ARE SHOWN ON REINFORCING SHOP DRAWINGS. WHEREVER POSSIBLE, SPLICES SHALL BE STAGGERED.
5. PROVIDE CONCRETE COVER FOR REINFORCING AS SPECIFIED BELOW. IN NO CASE SHALL REINFORCEMENT COVER BE LESS THAN THE REQUIREMENTS OF ACI 301 U.N.O. IN DRAWINGS.

CONCRETE DEPOSITED AGAINST THE GROUND	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	2"
BEAMS AND COLUMNS	1 ½"
SLABS AND WALLS	1"

6. PROVIDE DOWELS TO MATCH REINFORCEMENT SIZE AND SPACING INDICATED FOR ALL STRUCTURAL ELEMENTS, U.N.O.
7. MAJOR CONSTRUCTION JOINTS, IF ANY, ARE SHOWN ON THE DRAWINGS. INTERMEDIATE JOINTS IN WALLS, SLABS, AND FLOOR FRAMING ARE NOT SHOWN. CONSTRUCTION JOINTS MAY BE ADDED, OMITTED OR RELOCATED IF PROPERLY DETAILED ON SHOP DRAWINGS AND APPROVED BY THE EOR.
8. SEE ARCHITECTURAL, MECHANICAL, AND OTHER DISCIPLINE DRAWINGS FOR LOCATIONS OF OPENINGS AND SLEEVES IN CONCRETE WALLS AND SUPPORTED FLOORS. SPREAD REINFORCEMENT AT OPENINGS AND SLEEVES U.N.0. DO NOT CUT REINFORCEMENT. SEE TYPICAL REINFORCEMENT DETAILS FOR OPENINGS IN SLABS AND WALLS FOR ADDITIONAL REQUIREMENTS.
9. ERECTION NOTE: CONCRETE GRADE WALLS ARE NOT INDEPENDENTLY STABLE UNTIL FLOOR SLAB CONSTRUCTION IS COMPLETE. CONCRETE WALLS SHALL BE TEMPORARILY BRACED AGAINST EARTH PRESSURE AND OTHER FORCES UNTIL FLOOR SLABS ARE IN PLACE AND HAVE ATTAINED REQUIRED STRENGTHS.
10. FOUNDATION WALLS SHALL BE CAST IN PANELS NOT TO EXCEED 30 FEET LENGTH IN ONE POUR.
11. PROVIDE WATERSTOPS IN ALL CONSTRUCTION JOINTS AT OR BELOW GRADE. PROVIDE WATERSTOPS IN EXPANSION JOINTS AND CONSTRUCTION JOINTS OF LIQUID-CONTAINING STRUCTURES AND WHERE REQUIRED TO PREVENT INFILTRATION OF GROUND WATER.
12. DEPRESS FLOOR SLABS AS REQUIRED; SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND DEPTH OF DEPRESSED AREAS.
13. CHAMFER EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES 3/4-INCH, U.N.O.
14. EXTERIOR CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED.
15. THIS SEGMENT DOES NOT APPLY TO PRECAST CONCRETE PILE DESIGN.

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/ BLOCK: STATE OF CONNECTICUT · WEIYING S CHIANG · No. 29848 · LICENSED · PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE: NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL GENERAL NOTES

PROJECT NO: 301-0124
DRAWING NO: S14-001
SHEET NO: 09.02

MASONRY

1. DESIGN MASONRY ASSEMBLAGE STRENGTH, f'm = 1500 PSI. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE A MINIMUM OF 1900 PSI.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND BE MANUFACTURED WITH NORMAL WEIGHT AGGREGATE.
3. MORTAR SHALL CONFORM TO ASTM C 270 TYPE 'S'. GROUT FOR FILLED CELL SHALL CONFORM TO ASTM C476 AND SHALL NOT CONTAIN ADMIXTURES. GROUT SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI, WITH A SLUMP OF 9 IN.
4. REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 / A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP-FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.
5. PROVIDE 9 GAGE HORIZONTAL REINFORCEMENT AT 16 IN. SPACING. USE LADDER TYPE REINFORCEMENT.
6. ALUMINUM CONDUITS, PIPES, AND ACCESSORIES SHALL NOT BE EMBEDDED IN MASONRY GROUT, OR MORTAR, UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CEMENT CHEMICAL REACTION OR ELECTROLYTIC REACTION BETWEEN ALUMINUM AND STEEL.
7. PROVIDE VERTICAL REINFORCING ACCORDING TO "TYPICAL CMU WALL REINFORCEMENT" DETAIL ON SHEET S14-210.
8. VERTICAL REINFORCEMENT MUST HAVE A MINIMUM 48 BAR DIAMETER LAP SPLICE UNO. CENTER WALL REINFORCEMENT IN BLOCK CELLS UNO. USE NONMETALLIC BAR POSITIONERS.
9. PROVIDE DOWEL REINFORCEMENT IN FOUNDATION OF SAME SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT.
10. PROVIDE A CONTINUOUS BOND BEAM AT TOP OF WALL WITH 2 #5 BARS INSIDE. VERTICAL REBARS SHALL BE DEVELOPED INTO BOND BEAM, UNO.
11. BRACE TOP OF INTERIOR, NON-LOAD BEARING MASONRY WALLS TERMINATING AT THE UNDERSIDE OF FLOOR OR ROOF STRUCTURE AGAINST OUT-OF-PLANE MOVEMENT IN ACCORDANCE WITH THE "INTERIOR CMU TOP BRACING" SHEET S14-210.
12. PROVIDE CONCRETE MASONRY LINTEL AND WINDOW SILL ACCORDING TO "TYPICAL MASONRY LINTEL" DETAIL ON SHEET S14-210.
13. CUT & FIT CMU AROUND STEEL MEMBERS PENETRATING WALLS. PROVIDE FIRESTOPPING AS REQUIRED. AT PENETRATION, WRAP STEEL BEAM WITH 1" COMPRESSIBLE FELT MATERIAL BEFORE INFILLING SURROUNDING WALL.

CONCRETE GROUND FLOOR SLAB

1. GROUND FLOOR SLAB IS A REINFORCED, FLAT SLAB SUPPORTED BY PILE CAPS AND PERIMETER BEAMS.
2. SLAB SHALL BE POURED ON EARTH FORM. SUBGRADE SOIL SHALL BE GRAVELLY SOILS, WELL-GRADED SANDS, AND SAND-GRAVEL MIXTURES RELATIVELY FREE OF PLASTIC FINES. FILL AND BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% AASHTO T-180C DENSITY.
3. PROVIDE MINIMUM 4" THICK POROUS FILL DIRECTLY UNDER VAPOR BARRIER TO PREVENT WATER CAPILLARY ACTION.
4. A VAPOR BARRIER MEETING OR EXCEEDING REQUIREMENTS OF ASTM E-1745, OVERLAPPED 6" AT JOINTS, AND WITH A PERMEANCE OF LESS THAN 0.3 PERMS IN ACCORDANCE WITH ASTM E-96, MINIMUM 6 MIL THICK, SHALL BE PROVIDED DIRECTLY UNDER THE SLAB.
5. THERE SHALL BE NO SAW CUT JOINTS IN THIS STRUCTURAL SLAB. REFER TO FRAMING PLAN FOR LAYOUT OF ISOLATION JOINTS AND EXPANSION JOINTS.
6. PREMATURE FINISHING OF THE CONCRETE IS NOT ALLOWED - BLEED WATER SHALL BE REMOVED BEFORE FINISHING. IMMEDIATELY FOLLOWING FLOATING, TROWELLING WITH STEEL TROWELS SHOULD BE COMMENCED. BROOMING SHALL BE AFTER THE STEEL TROWELLING OPERATION.
7. SLAB FINISH TYPE: INSIDE BUILDING - STEEL TROWELED; OUTSIDE SLAB - BROOMED, U.N.O.

COLD FORMED STEEL FRAMING

1. THESE NOTES APPLY TO EXTERIOR COLD FORMED STEEL STUD WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL INFORMATION REGARDING INTERIOR COLD FORMED STEEL, AS WELL AS ADDITIONAL INFORMATION INCLUDING EXTERIOR SHEATHING TYPE, CLADDING, OPENING LOCATIONS, ETC.
2. STRUCTURAL DRAWINGS CONTAIN COLD FORMED STEEL FRAMING DETAILS DESCRIBED IN NOTE 1 ABOVE. DESIGN CRITERIA IS PROVIDED IN SPECIFICATIONS TO ALLOW FOR ANY DESIRED ALTERATIONS OF PROVIDED DETAILS TO BE MADE BY TRADE CONTRACTOR.
3. ALL STRUCTURAL COLD-FORMED STEEL TO BE FORMED FROM CORROSION RESISTANT STEEL CONFORMING TO ASTM A 1003/ 1 1003M-05 WITH MINIMUM YIELD STRESS (Fy) OF 50 KSI AND MINIMUM THICKNESS 0.0566 IN. (GAUGE 16).
4. FRAMING COMPONENTS ARE TO BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.
5. FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING, TORCH CUTTING OF COLD-FORMED MEMBERS IS UNACCEPTABLE.
6. FASTENING OF COMPONENTS IS TO BE WITH SELF-DRILLING SCREWS OR WELDING AS SHOWN ON DRAWINGS. ALL CONNECTION SCREWS SHALL BE ZINC COATED, SIZE #8 UNO. WELDING OF STUDS MUST COMPLY WITH AWS D 1.3. ALL WELDS TO BE TOUCHED-UP WITH ZINC-RICH PAINT.

STRUCTURAL STEEL

1. MATERIAL STRENGTH
   WIDE FLANGE SHAPES (NOTED AS W21x48,WT5x16.5) - ASTM A 992, Fy = 50 KSI
   STRUCTURAL RECTANGULAR TUBING - ASTM A 500 GRADE B, Fy = 46 KSI
   (NOTED AS "HSS 4x4x1/4")
   STRUCTURAL ROUND TUBING - ASTM A 500 GRADE B, Fy = 42 KSI
   (NOTED AS "HSS 4.0x0.220")
   ALL OTHER STRUCTURAL STEEL - ASTM A 36, Fy = 36 KSI
   WELDING ELECTRODES - AWS D1.1, E70XX
2. ALL STRUCTURAL STEEL ELEMENTS EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM123 OR ASTM A153, AS APPLICABLE.
3. THE CENTERLINES OF ALL COLUMNS AND BEAMS SHALL BE LOCATED ON COLUMN LINES UNO.
4. BOLTS SHALL TYPICALLY BE 3/4" INCH DIAMETER, TYPE A325N, UNO. PROVIDE "STANDARD" BOLT HOLES IN ACCORDANCE WITH AISC MANUAL TABLE J3.3 UNO.
5. BOLT HOLES IN STEEL FIXTURES ATTACHED BY POST-INSTALLED ANCHORS SHALL ALSO USE "STANDARD" SIZE HOLES IN TABLE J3.3, UNO.
6. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 55, UNO. SWAGED ANCHOR BOLTS AND ANCHOR BOLTS WITH HOOKED END ANCHORAGE ARE NOT ALLOWED. BOLT HOLE SIZES ON BASE PLATE SHALL BE THE "MAX HOLE DIAMETER" SPECIFIED IN TABLE 14-2 OF AISC MANUAL .
7. SHEAR CONNECTIONS NOT DETAILED ON DRAWINGS FOR SIMPLY SUPPORTED BEAMS SHALL BE DESIGNED FOR REACTIONS INDICATED ON THE FRAMING PLANS. WHERE NONE ARE INDICATED, BEAMS SHALL BE DESIGNED FOR AN END REACTION EQUAL TO 1/2 OF THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE ALLOWABLE UNIFORM LOAD TABLES OF THE AISC MANUAL, 14TH EDITION.
8. BOLTED MOMENT CONNECTIONS SHALL BE SLIP-CRITICAL CONNECTIONS. OTHER CONNECTIONS SHALL BE BEARING CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANES.

8.1 ALL SLIP CRITICAL CONNECTIONS MUST USE ONE OF THE FOLLOWING INSTALLATION METHODS:
1. TURN-OF-NUT
2. CALIBRATED WRENCH
3. TWIST-OFF-TYPE TENSION-CONTROL BOLT
4. DIRECT-TENSION-INDICATOR

ALL SLIP-CRITICAL CONNECTIONS SHALL BE PRETENSIONED TO 0.70 TIMES THE MINIMUM TENSILE STRENGTH OF THE BOLTS (28 KIPS FOR 3/4"Ø A325 AND 51 KIPS FOR 1"Ø A325)

9. WHERE THE WORK OF OTHER TRADES REQUIRES CUTS, HOLES, ETC., IN STRUCTURALSTEEL MEMBERS, CUTS, HOLES, ETC., SHALL BE MADE IN THE SHOP AND SHOWN ON THE SHOP DRAWINGS. MAKING HOLES OR CUTS IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED WITHOUT SPECIFIC APPROVAL OF THE EOR.
10. THE LATERAL LOAD RESISTING SYSTEM INCLUDES STRUCTURAL STEEL AND THE DIAPHRAGM AS INDICATED BELOW. ALL ELEMENTS OF THE LATERAL LOAD RESISTING SYSTEM AND DIAPHRAGM ARE REQUIRED TO BE COMPLETE AS INDICATED AND DETAILED IN THE STRUCTURAL CONTRACT DOCUMENTS TO PROVIDE THE LATERAL STRENGTH AND STABILITY OF THE STEEL STRUCTURE. THE STRUCTURE SHALL BE CONSIDERED UNSTABLE UNTIL THESE SYSTEMS AND ELEMENTS ARE COMPLETE.

10.1. THE LATERAL LOAD RESISTING SYSTEM FOR THE STEEL STRUCTURE INCLUDES THE FOLLOWING ELEMENTS AS INDICATED AND DETAILED IN THE STRUCTURAL CONTRACT DOCUMENTS:
   MASONRY SHEAR WALLS AT STAIRWELL CORE AND ELEVATOR CORE
   STEEL BRACED FRAMES IN SHORT DIRECTION OF BUILDING
   MOMENT FRAMES IN LONG DIRECTION OF BUILDING
   CONNECTIONS, BASE PLATES, ANCHOR BOLTS, AND GROUT

10.2 THE LATERAL LOAD RESISTING DIAPHRAGM FOR THE STEEL STRUCTURE INCLUDES THE FOLLOWING ELEMENTS AS INDICATED AND DETAILED IN THE STRUCTURAL CONTRACT DOCUMENTS:
   ROOF STEEL DECK THAT HAS BEEN PROPERLY ANCHORED ACCORDING TO THIS SET OF DRAWINGS
   SECOND FLOOR STEEL DECK THAT HAS BEEN PROPERLY ANCHORED ACCORDING TO THIS SET OF DRAWINGS

11. STEEL BRACING: THE STABILITY OF STRUCTURAL STEEL ELEMENTS INCLUDING INDIVIDUAL HOT-ROLLED STEEL SHAPES AND FABRICATED TRUSSES IS PROVIDED BY THE FOLLOWING ELEMENTS AS INDICATED AND DETAILED IN THE STRUCTURAL CONTRACT DOCUMENTS. THESE ELEMENTS SHALL BE COMPLETE AS SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS BEFORE ANY TEMPORARY MEANS AND METHODS REQUIRED FOR ERECTION ARE REMOVED.
   ROOF STEEL DECK THAT HAS BEEN PROPERLY ANCHORED
   SECOND FLOOR STEEL DECK THAT HAS BEEN PROPERLY ANCHORED
   STRUCTURAL STEEL BRACING AND KICKERS

12. NON-SHRINK GROUT FOR BASE PLATES TO COMPLY WITH ASTM C1107 WITH MINIMUM COMPRESSIVE STRENGTH 7000 PSI AT 28 DAYS.

STEEL JOISTS

1. FABRICATION AND ERECTION SHALL CONFORM TO THE STANDARD OF STEEL JOIST INSTITUTE (SJI). THE STEEL JOIST FABRICATOR SHALL BE A MEMBER OF SJI.
2. JOIST MANUFACTURER SHALL DESIGN THE MEMBER SIZES AND CONNECTIONS OF THE JOISTS IN ACCORDANCE WITH DIMENSIONS AND LOADING CONDITIONS SPECIFIED ON PLAN. DESIGN CALCULATIONS SHALL BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED TO EOR FOR REVIEW.
3. STEEL JOIST SPACING SHALL NOT EXCEED SPACING INDICATED ON DRAWINGS AND PLACEMENT OF JOISTS SHALL BE CAREFULLY COORDINATED WITH PARTITIONS AND WORK OF OTHER TRADES TO AVOID INTERFERENCES.
4. PROVIDE JOIST BRIDGING IN ACCORDANCE WITH SJI SPECIFICATIONS. OMIT JOIST BRIDGING WHERE INDICATED OR WHERE REQUIRED TO ALLOW INSTALLATION OF WORK OF OTHER TRADES. PROVIDE DIAGONAL BRIDGING IN EACH ADJACENT BAY IN LINE WITH OMITTED BRIDGING.
5. JOINTS TO BE WELDED OR FIELD BOLTED TO SUPPORTS IN ACCORDANCE WITH SJI SPECIFICATIONS.

5.1 WELD ALL JOISTS TO SUPPORTING STEEL 2 INCHES OF 1/4 INCH FILLETED WELD FOR LH- OR DLH-SERIES JOISTS, EACH SIDE OF BEARING.

5.2 FIELD BOLT JOISTS TO SUPPORTING STEEL WITH (2) 3/4" BOLTS.

6. JOISTS ARE TO BE FIELD BOLTED AT COLUMN LINES, OR, IF THERE ARE NO JOISTS AT THE COLUMN LINE, FIELD BOLT THE JOIST NEAREST THE COLUMN ON EACH SIDE OF THE BEAM. EXTEND BOTTOM CHORDS OF THE SAME JOISTS AND WELD THEM TO THE BEAM OR COLUMN.
7. EXTEND ALL JOISTS 1 INCH MINIMUM PAST CENTERLINE OF SUPPORTING MEMBER WHERE POSSIBLE.
8. ADJACENT JOISTS OF THE SAME DEPTH ARE TO HAVE WEB MEMBERS IN LINE TO PERMIT PASSAGE OF HVAC DUCTS.
9. JOISTS AND JOIST GIRDERS WITH CONCENTRATED LOADS IN EXCESS OF 50 POUNDS ON THE TOP OR BOTTOM CHORDS NOT LOCATED AT A PANEL POINT SHALL BE REINFORCED WITH A FIELD INSTALLED MEMBER. THE FIELD INSTALLED MEMBER SHALL BE LOCATED AT THE CONCENTRATED LOAD AND SHALL BRACE THE CHORD BACK TO A PANEL POINT.
10. SEE DRAWINGS FOR SPECIAL BEARING SHOES, EXTENDED ENDS, LOAD TABLE, ETC.

STEEL DECK

1. NON-COMPOSITE ROOF DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A653-94 WITH A MINIMUM YIELD STRENGTH OF 33 KSI. STEEL ROOF DECK SHALL BE 1 1/2" DEEP TYPE B DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES UNO:
   A) t=0.0358 in (20 Gage)
   B) Ip=0.201 in4/ft
   C) Sp=0.234 in3/ft
   D) Sn=0.247 in3/ft
2. FOR AREAS INDICATED ON SHEETS S14-111 AND S14-112, NON-COMPOSITE ROOF DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A653-94 WITH A MINIMUM YIELD STRENGTH OF 33 KSI. THESE STEEL ROOF DECKS SHALL BE 3" DEEP TYPE N DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:
   A) t=0.0358 in (20 Gage)
   B) Ip=0.848 in4/ft
   C) Sp=0.501 in3/ft
   D) Sn=0.552 in3/ft
3. ROOF DECK SHALL BE FASTENED TO THE SUPPORTING STRUCTURE WITH 5/8" Ø PUDDLE WELDS AT A 36/4 WELD PATTERN FOR INTERIOR ZONE, 36/7 FOR BOUNDARY (INCLUDING RIDGE) ZONE OF 7'-9". SIDE LAP CONNECTIONS SHALL BE MADE WITH #10 SELF TAPPING SCREWS AT QUARTER POINTS BETWEEN SUPPORTS, NO FURTHER THAN 12" OC. FASTEN DISCONTINUOUS SIDE OF ROOF DECK TO SUPPORTING STRUCTURE WITH 5/8" Ø PUDDLE WELDS AT 12" ON CENTER UNO.
4. NON-COMPOSITE FLOOR DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A1008 WITH A MINIMUM YIELD STRENGTH OF 33 KSI. NON-COMPOSITE STEEL FLOOR DECK SHALL BE 2" DEEP, TYPE C DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:
   A) t=0.0358 in (20 Gage)
   B) Ip=0.409 in4/ft
   C) Sp=0.341 in3/ft
   D) Sn=0.346 in3/ft
5. NON-COMPOSITE DECKS SHALL BE FASTENED TO THE SUPPORTING STRUCTURE WITH 5/8" Ø PUDDLE WELDS AT A 36/4 WELD PATTERN. SIDE LAP CONNECTIONS SHALL BE MADE WITH #10 SELF TAPPING SCREWS AT MIDSPAN BETWEEN SUPPORTS, NO FURTHER THAN 12" OC. FASTEN DISCONTINUOUS SIDE OF FLOOR DECK TO SUPPORTING STRUCTURE WITH 5/8" Ø PUDDLE WELDS AT 12" ON CENTER UNO.
6. WHERE 4 OR MORE SUPPORTS ARE PROVIDED, STEEL DECK SHALL SPAN CONTINUOUSLY OVER A MINIMUM OF 3 SUPPORTS (2-SPAN CONDITION), UNO.
7. ALL NON-COMPOSITE STEEL DECK IS DESIGNED AS UNSHORED CONSTRUCTION, UNO.
8. CONSTRUCTION JOINTS RUNNING PARALLEL TO BEAMS OR GIRDERS SHALL NOT COINCIDE WITH THE CENTERLINE OF THE BEAM OR GIRDER.
9. CONSTRUCTION JOINTS RUNNING PERPENDICULAR TO BEAMS OR GIRDERS SHALL BE LOCATED AT APPROXIMATELY THE 1/3 POINT OF THE BEAM OR GIRDER SPAN.
10. PERMANENT SUSPENDED LOADS SHALL NOT BE SUPPORTED BY STEEL ROOF DECK. FOR POSSIBLE EXCEPTIONS, NOTIFY EOR FOR APPROVAL.

INSPECTIONS

1. SPECIAL INSPECTIONS WILL BE PERFORMED AS REQUIRED BY LATEST EDITION OF CT BUILDING CODE IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS WHICH IS PART OF QUALITY ASSURANCE PLAN, NOT INCLUDED IN THE DRAWINGS.
2. OWNER SHALL EMPLOY SPECIAL INSPECTOR AND MATERIAL TESTING AGENT TO CONDUCT SPECIAL INSPECTION. INSPECTION REPORTS AND TEST RESULTS SHALL BE REVIEWED AND APPROVED BY THE EOR.
3. THE FOLLOWING GENERAL TYPES OF WORK REQUIRE SPECIAL INSPECTION: (REFER TO STATEMENT OF SPECIAL INSPECTIONS FOR DETAILED INSPECTION REQUIREMENTS)

   FOUNDATIONS
   CONCRETE
   REINFORCING STEEL
   MASONRY
   STRUCTURAL STEEL
   STRUCTURAL WELDING
   HIGH STRENGTH BOLTS
   FLOOR AND ROOF DECK ATTACHMENT

STRUCTURAL ABBREVIATION LIST:

W/	WITH	KSF	KIPS PER SQUARE FOOT
±	PLUS MINUS	KSI	KIPS PER SQUARE INCH
Ø	DIAMTER	LG	LONG
AB	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL
ACI	AMERICAN CONCRETE INSTITUTE	LLO	LONG LEG OUTSTANDING
ADJ	ADJACENT	LLV	LONG LEG VERTICAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LP	LOW POINT
		LSH	LONG SIDE HORIZONTAL
ARCH	ARCHITECT OR ARCHITECTURAL	LSV	LONG SIDE VERTICAL
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	MANUF	MANUFACTURER OR MANUFACTURERS
		MAX	MAXIMUM
B	BOTTOM	MECH	MECHANICAL
BD	BAR DIAMETER	MIN	MINIMUM
BL	BASELINE	NTS	NOT TO SCALE
BLDG	BUILDING	NW	NORMAL WEIGHT
BM	BEAM	OC	ON CENTER
BTWN	BETWEEN	OPP	OPPOSITE
CIP	CAST IN PLACE	PC	PILECAP
CFS	COLD FORMED STEEL	PJP	PARTIAL JOINT PENETRATION
CIJB	CAST IRON JUNCTION BOX	PSF	POUNDS PER SQUARE FOOT
CJ	CONTRACTION JOINT	PSI	POUNDS PER SQUARE INCH
CJP	COMPLETE JOINT PENETRATION	REF	REFERENCE
CL	CENTER LINE	REINF	REINFORCED OR REINFORCING
CLR	CLEAR	REQD	REQUIRED
CMU	CONCRETE MASONRY UNIT	REV	REVISION
COL	COLUMN	RMC	RIGID METAL CONDUIT
CONC	CONCRETE	SCHED	SCHEDULE
CONN	CONNECT OR CONNECTION	SD	SELF DRILLING
CONT	CONTINUOUS	SDI	STEEL DECK INSTITUTE
COORD	COORDINATE	SECT	SECTION
D	DEEP OR DEPTH	SHT	SHEET
DET	DETAIL	SIM	SIMILAR
DIA	DIAMETER	SJI	STEEL JOIST INSTITUTE
DWG	DRAWING	SL	SLOPE
EA	EACH	SLBB	SHORT LEGS BACK TO BACK
EF	EACH FACE	SLC	SLIP CRITICAL CONNECTION
EJ	EXPANSION JOINT	SOG	SLAB-ON-GRADE
EL	ELEVATION	SP	SPACING
EMB	EMBED OR EMBEDMENT	SS	STAINLESS STEEL
ENG	ENGINEER	STRUCT	STRUCTURAL
EOR	ENGINEER OF RECORD	T	TOP
ES	EACH SIDE	T&B	TOP AND BOTTOM
EQ	EQUAL	TOC	TOP OF CONCRETE
EW	EACH WAY	TOS	TOP OF STEEL
EXP	EXPANSION	TOW	TOP OF WALL
FIN	FINISH OR FINISHED	TEMP	TEMPERATURE
FL	FULL LENGTH	TYP	TYPICAL
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
FTG	FOOTING	VERT	VERTICAL
GALV	GALVANIZED	W	WIDE OR WIDTH
GC	GENERAL CONTRACTOR	WP	WORKING POINT
GR	GRADE	WWR	WELDED WIRE REINFORCING

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT, REGISTERED PROFESSIONAL ENGINEER, No. 29448

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

PROJECT NO: 301-0124
DRAWING NO: S14-002
SHEET NO: 09.03

STRUCTURAL FOUNDATION PLAN - AREA A

1/8" = 1'-0"

MOW BUILDING GEOMETRIC CONTROL TABLE			
COLUMN LOCATION	WORK POINT NO.	NORTHING	EASTING
0.5/F.2	1	668606.75	952792.82
0.5/G	2	668594.11	952810.22
1/B	3	668678.87	952714.81
1/F.2	4	668616.86	952800.17
1/G	5	668604.22	952817.56
1/J	6	668560.34	952877.97
1.5/A	7	668701.41	952706.47
1.5/B	8	668689.65	952722.65
2/J	9	668580.29	952892.47
2/K	10	668566.19	952911.89
3/A	11	668730.80	952727.82
3/A.5	12	668724.54	952736.45
4/A.5	13	668743.95	952750.56
4/K	14	668605.83	952940.69

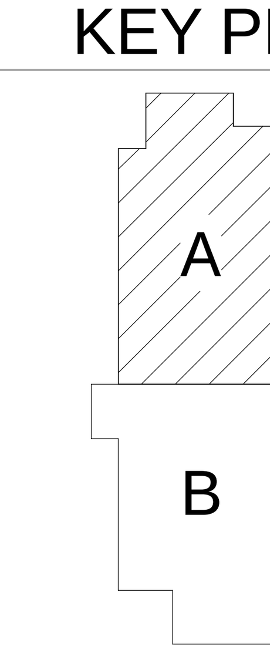
SHEET NOTES

1. TOP OF TYPICAL INTERIOR PILE CAP AT -0'-7" UNLESS NOTED OTHERWISE ON PLAN.
2. PC-# DENOTES PILE CAP TYPE, REFER TO S14-201 FOR TYPICAL PILE CAP CONNECTION DETAILS.
3. REFER TO S14-203 FOR CONCRETE PEDESTAL LOCATION AND DETAIL.
4. PILE CAP SHALL BE CENTERED ON GRID LINES, UNO.
5. PILE CAPS DENOTED AS PC-1S OR PC-2S ARE SUBJECTED TO TENSION FORCE. PILES SHALL HAVE TENSION DEVELOPMENT INTO PILE CAP FOR TRANSFER OF TENSION AS SPECIFIED IN GENERAL NOTES.
6. B##x## DENOTES CONCRETE GRADE BEAMS. W# DENOTES CONCRETE FOUNDATION WALLS. WF# DENOTES CONCRETE WALL FOOTINGS. REFER TO SHEET S14-202 FOR SCHEDULES.
7. PRIOR TO DRIVING PILES THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL HIS METHOD AND SEQUENCE OF THE PILE DRIVING.
8. THE ESTIMATED LENGTH OF PILES IN THE BUILDING IS 79FT.
9. THE NUMBER OF PILES IN THE BUILDING IS 230.
10. PDA TESTING REQUIRED FOR ALL TEST PILES.
11. MAXIMUM PILE DESIGN LOAD:
    68 TONS (ASCE 7-10 LRFD 2)
12. ULTIMATE CAPACITY = 100 TONS.
13. NO PILE DRIVING IS PERMITTED IN THE TIME BETWEEN THE END OF INITIAL PILE DRIVING AND RESTRIKE.
14. KEYNOTES IDENTIFY GEOMETRIC CONTROL POINT LOCATIONS AT GRID INTERSECTIONS. SEE TABLE ABOVE.
15. PROVIDE CORBELS FOR STAIR/RAMP LANDINGS ALONG EXTERIOR EDGE OF INDICATED WALLS. CONSTRUCT CORBEL SIMILAR TO THAT SEEN IN DETAIL 5/S14-302.
16. REFER TO S14-201 FOR ENLARGED PILE PLANS AND SECTIONS.

LEGEND

- ○ EXISTING 18" DIA FRANKI PILES PREVIOUSLY CUT DOWN TO EXISTING GRADE ELEV 8.0' (+/-) NAVD88 CONTRACTOR SHALL REMOVE PORTIONS OF EXISTING PILES TO ALLOW FOR CONSTRUCTION OF BUILDING STRUCTURE, AND BUILDING SYSTEMS.
- VERTICAL PILE
- TEST PILE (85 FT LONG)
- TEST PILE (85 FT LONG) WITH PILE LOADING TEST
- # GEOMETRIC CONTROL POINT LOCATION

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FOUNDATION PLAN - AREA A

PROJECT NO: 301-0124
DRAWING NO: S14-101
SHEET NO: 09.04

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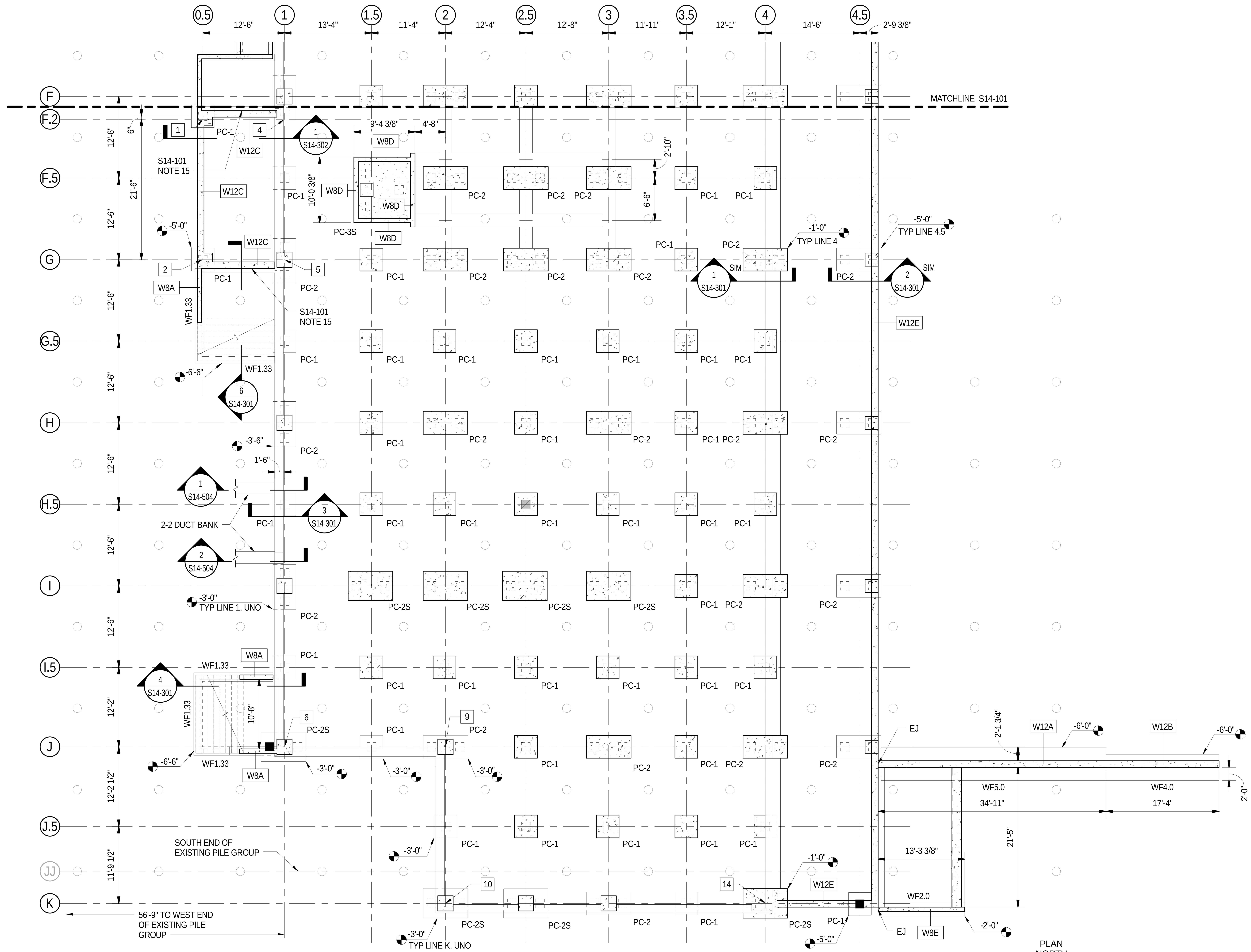

STRUCTURAL FOUNDATION PLAN - AREA B

1/8" = 1'-0"

SHEET NOTES

1. REFER TO S14-101 FOR SHEET NOTES AND LEGEND.

MOW BUILDING GEOMETRIC CONTROL TABLE

COLUMN LOCATION	WORK POINT NO.	NORTHING	EASTING
0.5/F.2	1	668606.75	952792.82
0.5/G	2	668594.11	952810.22
1/B	3	668678.87	952714.81
1/F.2	4	668616.86	952800.17
1/G	5	668604.22	952817.56
1/J	6	668560.34	952877.97
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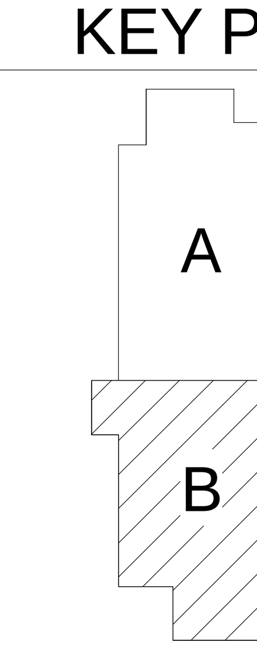
2/J	9	668580.29	952892.47
2/K	10	668566.19	952911.89
3/A	11	668730.80	952727.82
3/A.5	12	668724.54	952736.45
4/A.5	13	668743.95	952750.56
4/K	14	668605.83	952940.69

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE: 1/8" = 1'-0" (0 4' 8' 16')

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE: **NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FOUNDATION PLAN - AREA B

PROJECT NO: 301-0124
DRAWING NO: S14-102
SHEET NO: 09.05

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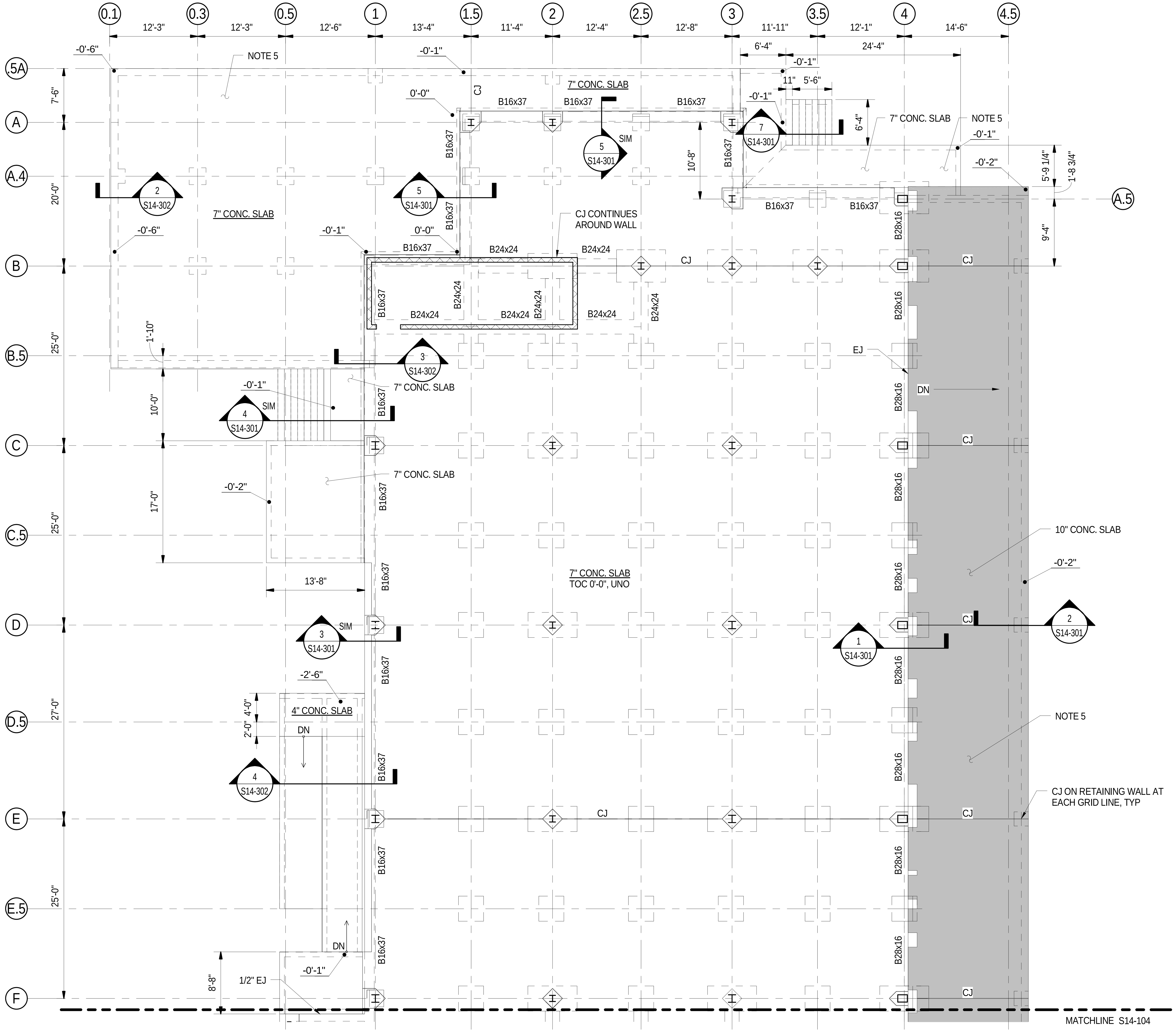


STRUCTURAL FIRST FLOOR FRAMING PLAN - AREA A

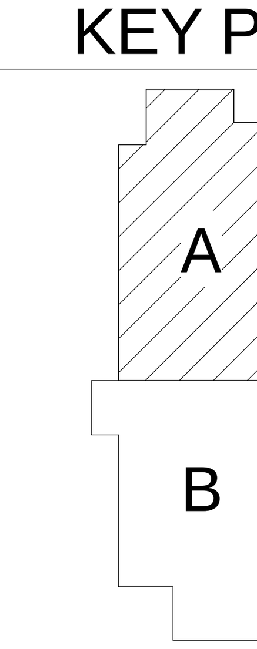
1/8" = 1'-0"

PLAN NORTH

SHEET NOTES

1. REFER TO S14-105 AND S14-106 FOR SLAB REINFORCING DETAIL.
2. B##x## DENOTES GRADE BEAMS. REFER TO S14-202 FOR GRADE BEAM SCHEDULE.
3. REFER TO S14-209 FOR STEEL COLUMN SCHEDULE, AND S-207 FOR BASE PLATE SCHEDULE.
4. NON-LOAD BEARING CMU WALLS ARE NOT SHOWN FOR CLARITY, REFER TO S14-107 AND S14-108 FOR WALL LAYOUT AND BRACING DESIGN.
5. REFER TO ARCHITECTURAL DRAWINGS A14-102 AND A14-103 FOR SLAB DRAINAGE PLAN. SLAB TO BE SLOPED WHILE MAINTAINING FULL DEPTH.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/8" = 1'-0"
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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK:
STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FIRST FLOOR FRAMING PLAN - AREA A

PROJECT NO: **301-0124**
DRAWING NO: **S14-103**
SHEET NO: **09.06**

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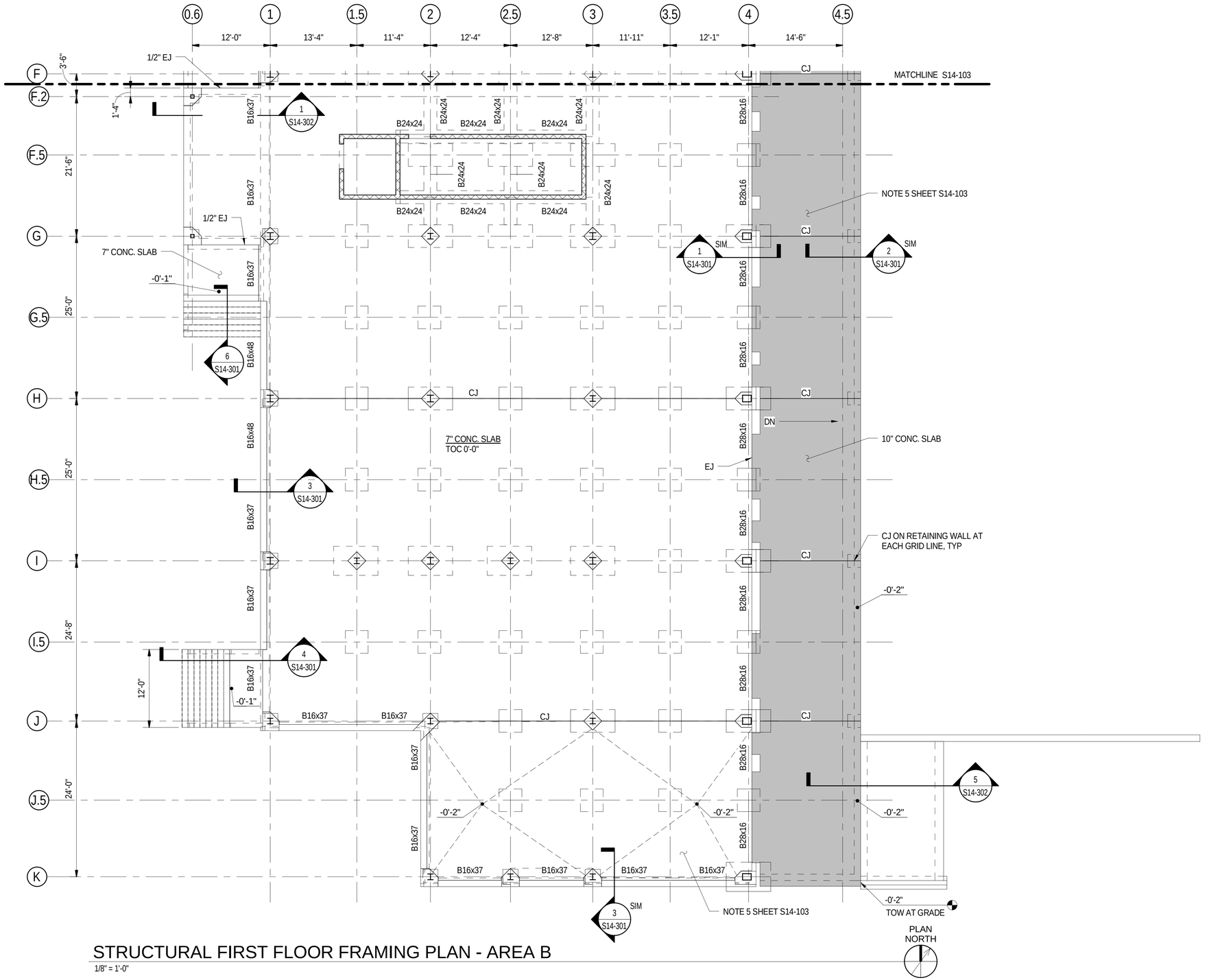


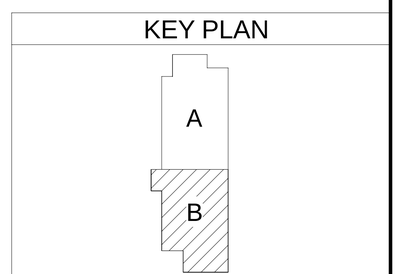
STRUCTURAL FIRST FLOOR FRAMING PLAN - AREA B

1/8" = 1'-0"

SHEET NOTES

1. REFER TO S14-103 FOR SHEET NOTES.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK OF CONNECTICUT LICENSING STAMP

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FIRST FLOOR FRAMING PLAN - AREA B

PROJECT NO: 301-0124

DRAWING NO: S14-104

SHEET NO: 09.07

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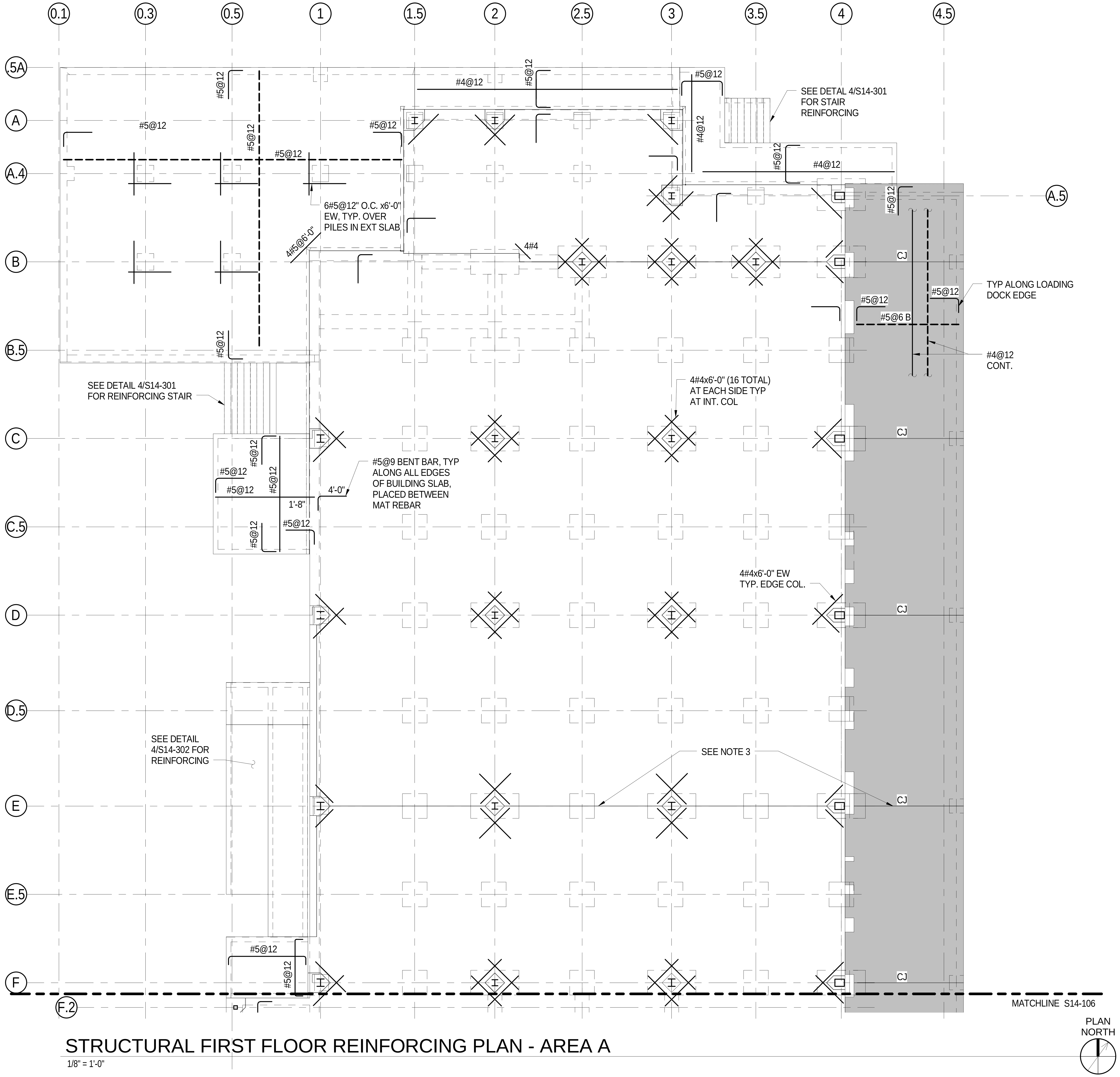


STRUCTURAL FIRST FLOOR REINFORCING PLAN - AREA A

1/8" = 1'-0"

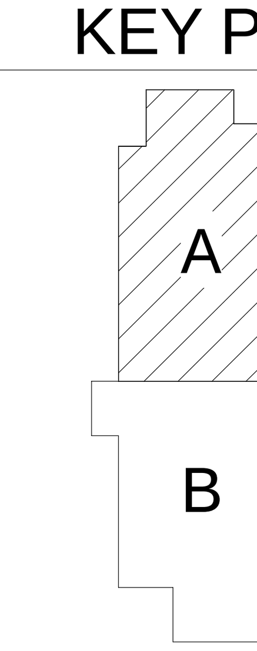
SHEET NOTES

1. 7" INTERIOR SLAB SHALL HAVE A CONTINUOUS MAT OF #5@9 EACH WAY PARALLEL TO GRID LINES. PROVIDE HOOKS AT SLAB EDGES. CLEAR CONCRETE COVER 3" AT THE BOTTOM.
2. ADDITIONAL REBAR TO THE MAT ARE SHOWN ON THIS PLAN.
3. CJ SHALL BE CONTROL JOINT OR CONSTRUCTION JOINT. REFER TO DETAIL 6/S14-204 AND 7/S14-204 FOR CJ TREATMENT (JOINTS FOR CONCRETE WALL).

LEGEND

- - - - BOTTOM REBAR
——— TOP REBAR
———┐ TOP REBAR W/ 90° HOOK

KEY PLAN



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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE: **NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING**

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FIRST FLOOR REINFORCING PLAN - AREA A

PROJECT NO: 301-0124
DRAWING NO: S14-105
SHEET NO: 09.08

4/2/2015 1:14:03 PM
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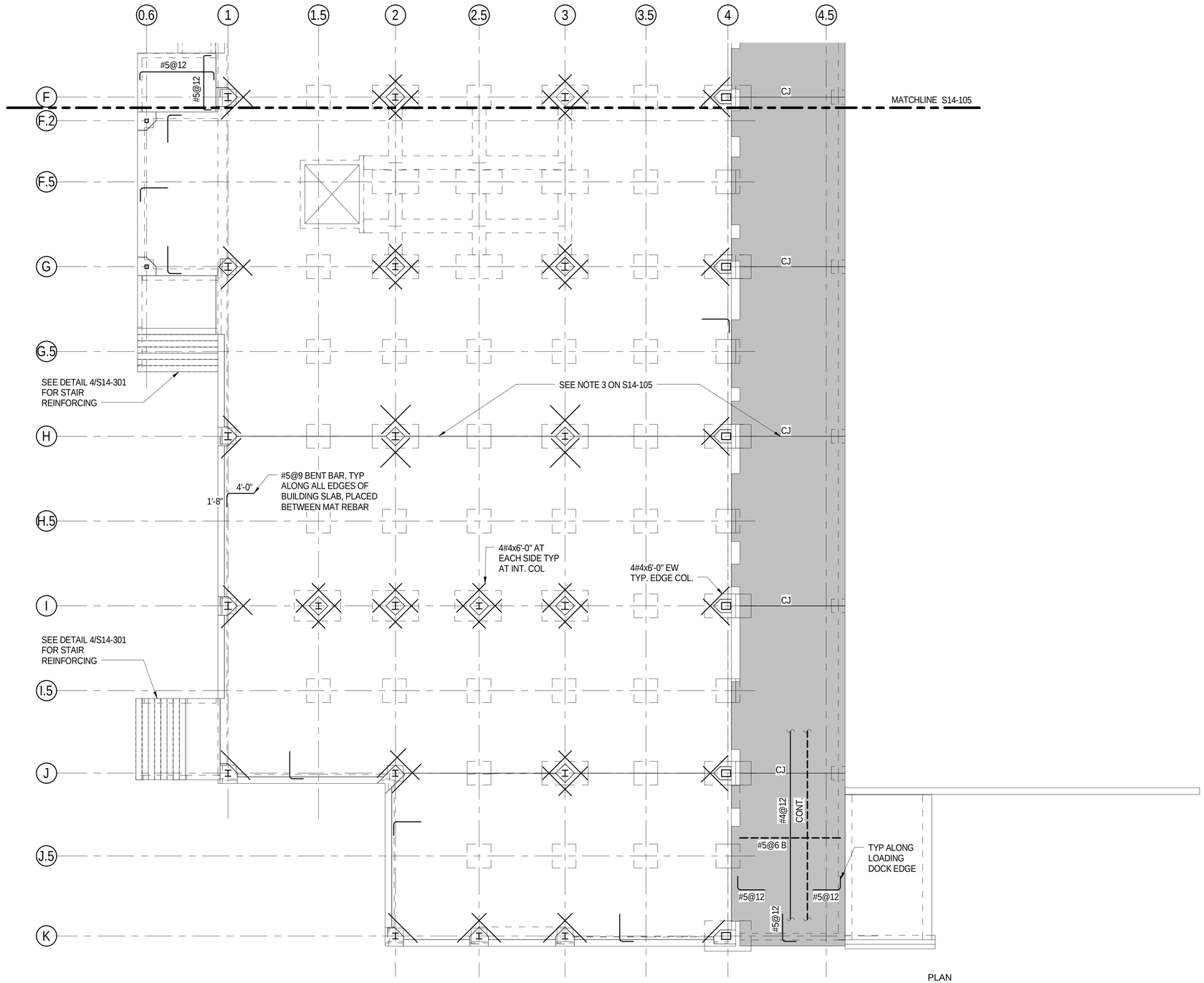


STRUCTURAL FIRST FLOOR REINFORCING PLAN - AREA B

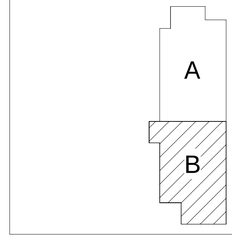
1/8" = 1'-0"

PLAN NORTH

SHEET NOTES

1. REFER TO SHEET S14-105 FOR PLAN NOTES.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT · REGISTERED · PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL FIRST FLOOR REINFORCING PLAN - AREA B

PROJECT NO: 301-0124

DRAWING NO: S14-106

SHEET NO: 09.09

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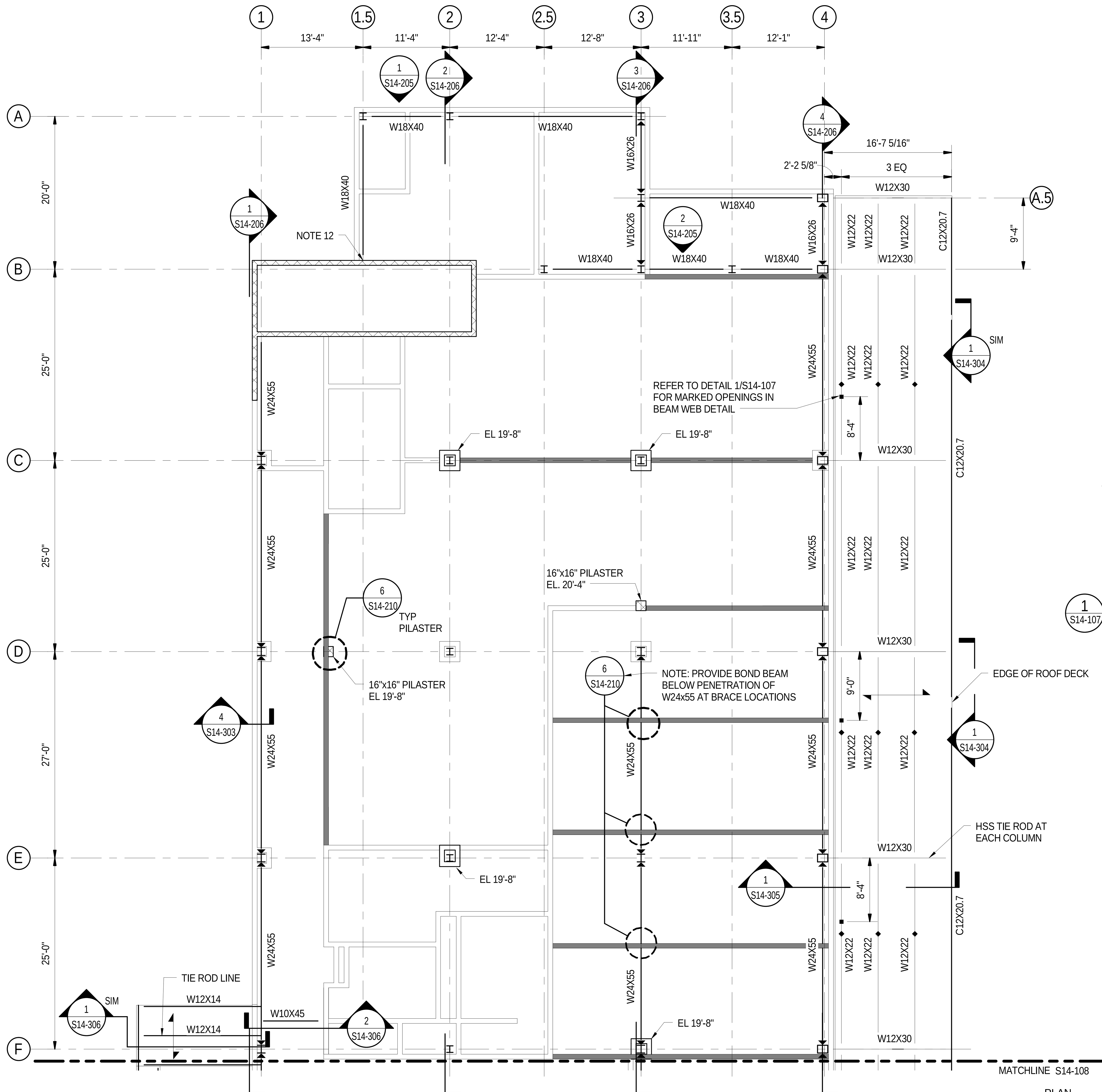
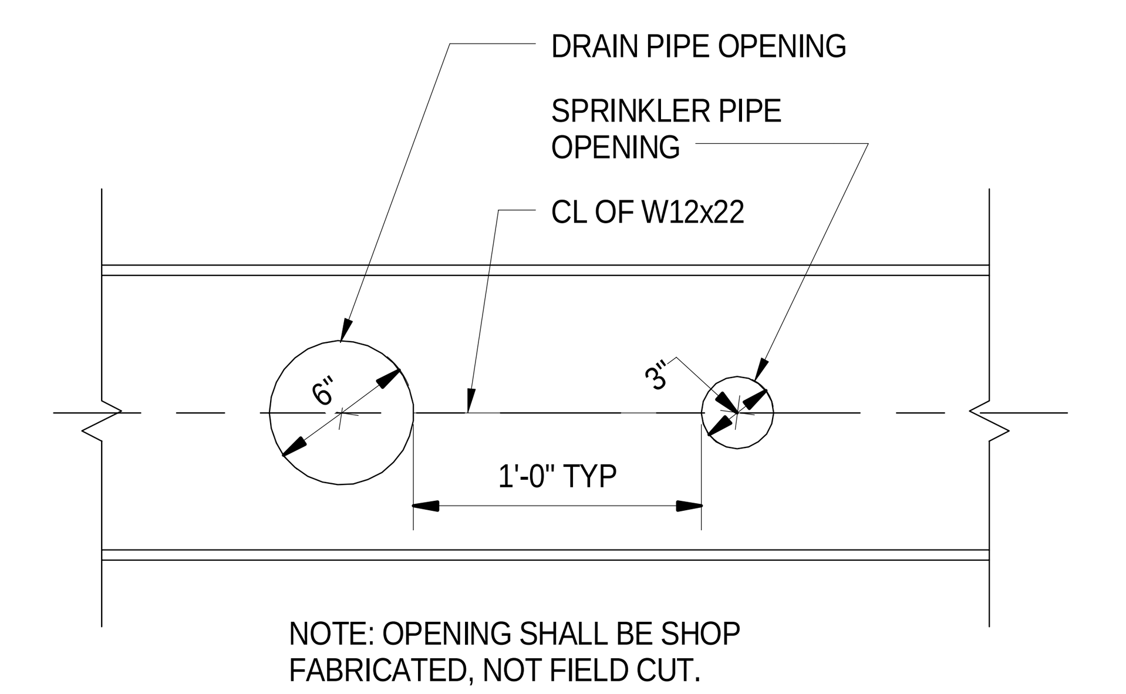


STRUCTURAL INTERMEDIATE LEVEL FRAMING PLAN - AREA A

1/8" = 1'-0"



1 OPENINGS IN CANOPY BEAM WEB

S14-107 1 1/2" = 1'-0"

SCALE: 1 1/2" = 1'-0"

0 4" 8" 1'-4"

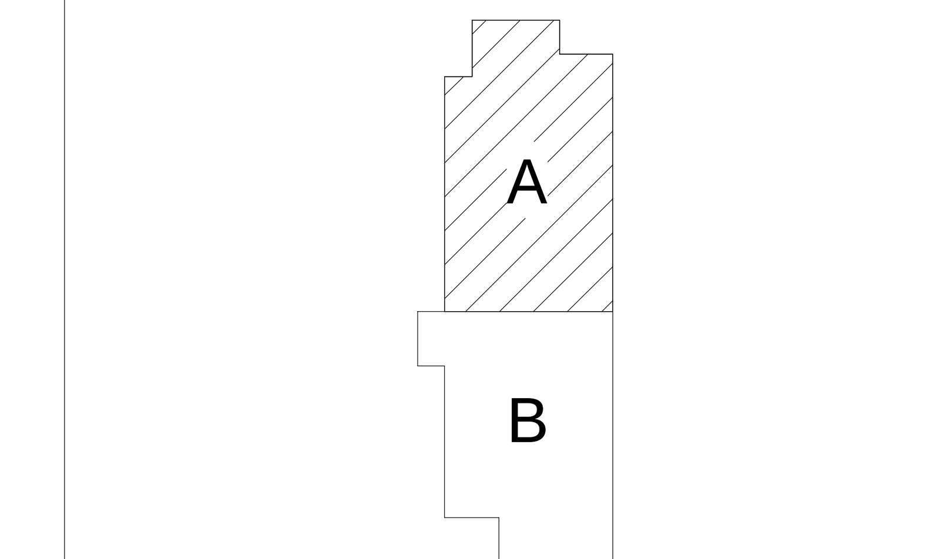
SHEET NOTES

1. STEEL MEMBERS SHALL HAVE BOTTOM OF STEEL ELEVATION AT 12'-0" UNO.
2. STEEL MEMBERS EAST OF LINE 4 SHALL HAVE BOTTOM OF STEEL ELEVATION AT 14'-10".
3. STEEL BEAMS WEST OF LINE 1 SHALL HAVE TOP OF STEEL ELEVATION AT 13'-0".
4. BEAMS HAVE EQUAL SPACING WITHIN EACH BAY WITH MAXIMUM SPACING 6'-0".
5. ROOF DECK FOR CANOPY AREAS EAST OF COLUMN LINE 4 AND WEST OF COLUMN LINE 1 SHALL BE 1 1/2" DEEP 20 GAGE STEEL DECK. REFER TO GENERAL NOTES ON SHEET S-001 FOR STEEL DECK PROPERTIES AND CONNECTION REQUIREMENTS. FASTEN ROOF DECK TO SUPPORTS AND PERIMETER BEAMS AS SHOWN IN DETAILS.
6. AT THIS LEVEL ROOF DECK IS PROVIDED OVER CANOPY AREAS WHILE THE BUILDING INTERIOR IS OPEN, WITHOUT FLOOR SLABS.
7. SEE SHEET S14-210 FOR TYPICAL REINFORCING FOR MASONRY WALLS AND STANDARD DETAILS.
8. BOND BEAM AT ELEV. 14'-0" SHALL BE CONTINUOUS THROUGH STAIRWELL WALLS ON EXTERIOR OF BUILDING.
9. SEE SHEET S14-205 FOR TYPICAL BRACED FRAME ELEVATIONS AND DETAILS.
10. SEE SHEET S14-206 FOR TYPICAL MOMENT CONNECTION ELEVATIONS AND DETAILS.
11. SEE SHEET S14-208 FOR TYPICAL SHEAR CONNECTIONS.
12. BEAMS BEARING ON CMU WALLS USE TYPICAL DETAILS FOUND ON S14-208.

LEGEND

- MOMENT CONNECTION
- DECK SPAN DIRECTION
- DRAIN PIPE OPENING
- SPRINKLER PIPE OPENING
- CMU WALL W/ #5 @ 32 VERT. TOP OF WALL +14'-0" UNO
- MASONRY SHEAR WALL, TOP OF WALL AT UNDERSIDE OF ROOF DECK. FULLY GROUTED w/ #5@32 VERT.
- HARDENED WALL W/ BOND BEAM @ EVERY 7TH COURSE, #5 @ 32" VERT, TOP OF WALL +14'-0"
- BRACE FRAME IN VIEW

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

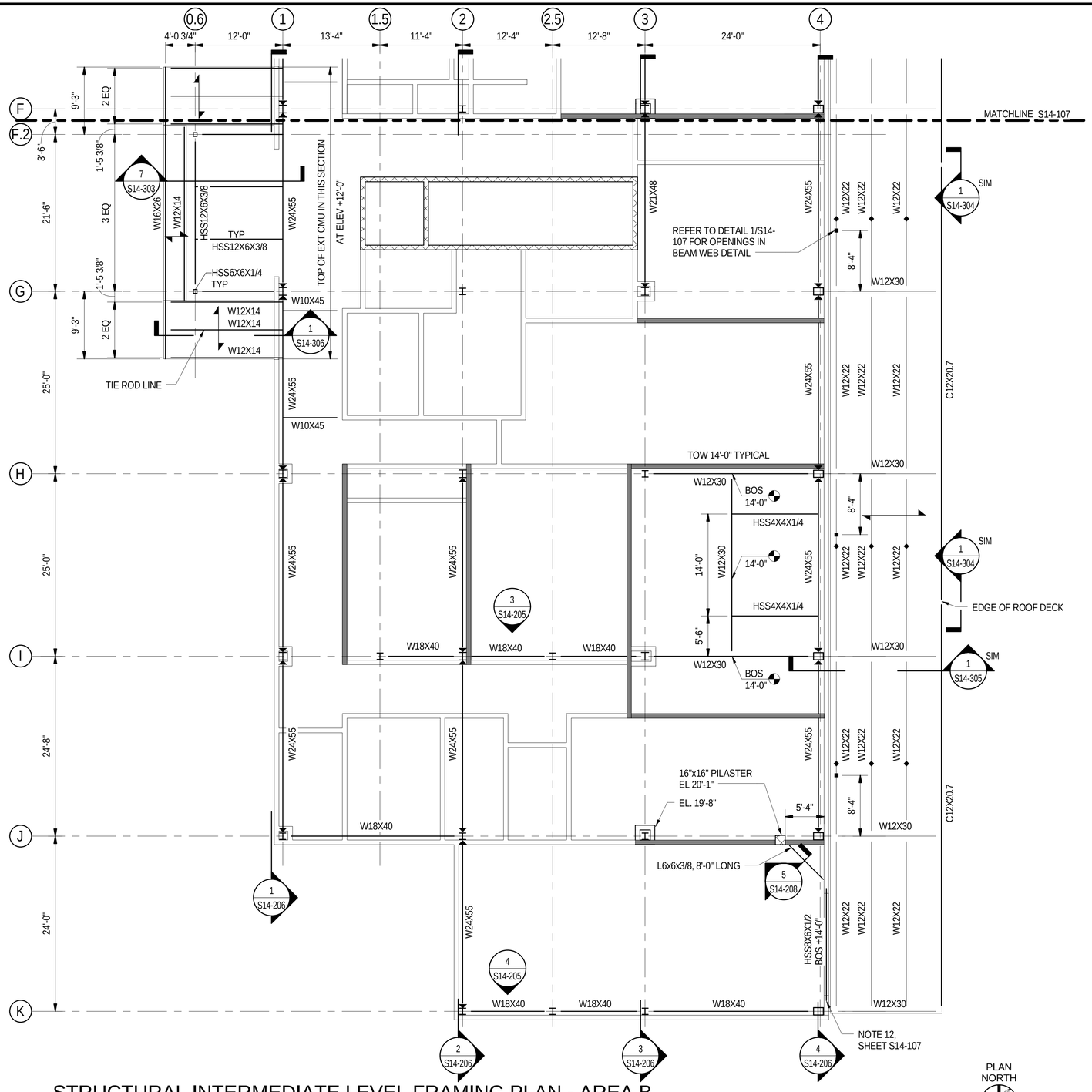
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL INTERMEDIATE LEVEL FRAMING PLAN - AREA A

PROJECT NO: 301-0124

DRAWING NO: S14-107

SHEET NO: 09.10



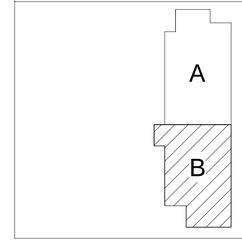
STRUCTURAL INTERMEDIATE LEVEL FRAMING PLAN - AREA B

1/8" = 1'-0"

SHEET NOTES

1. SEE SHEET S14-107 FOR PLAN NOTES RELATING TO INTERMEDIATE LEVEL FRAMING PLAN.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

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DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT · REGISTERED · PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL INTERMEDIATE LEVEL FRAMING PLAN - AREA B

PROJECT NO: 301-0124
DRAWING NO: S14-108
SHEET NO: 09.11

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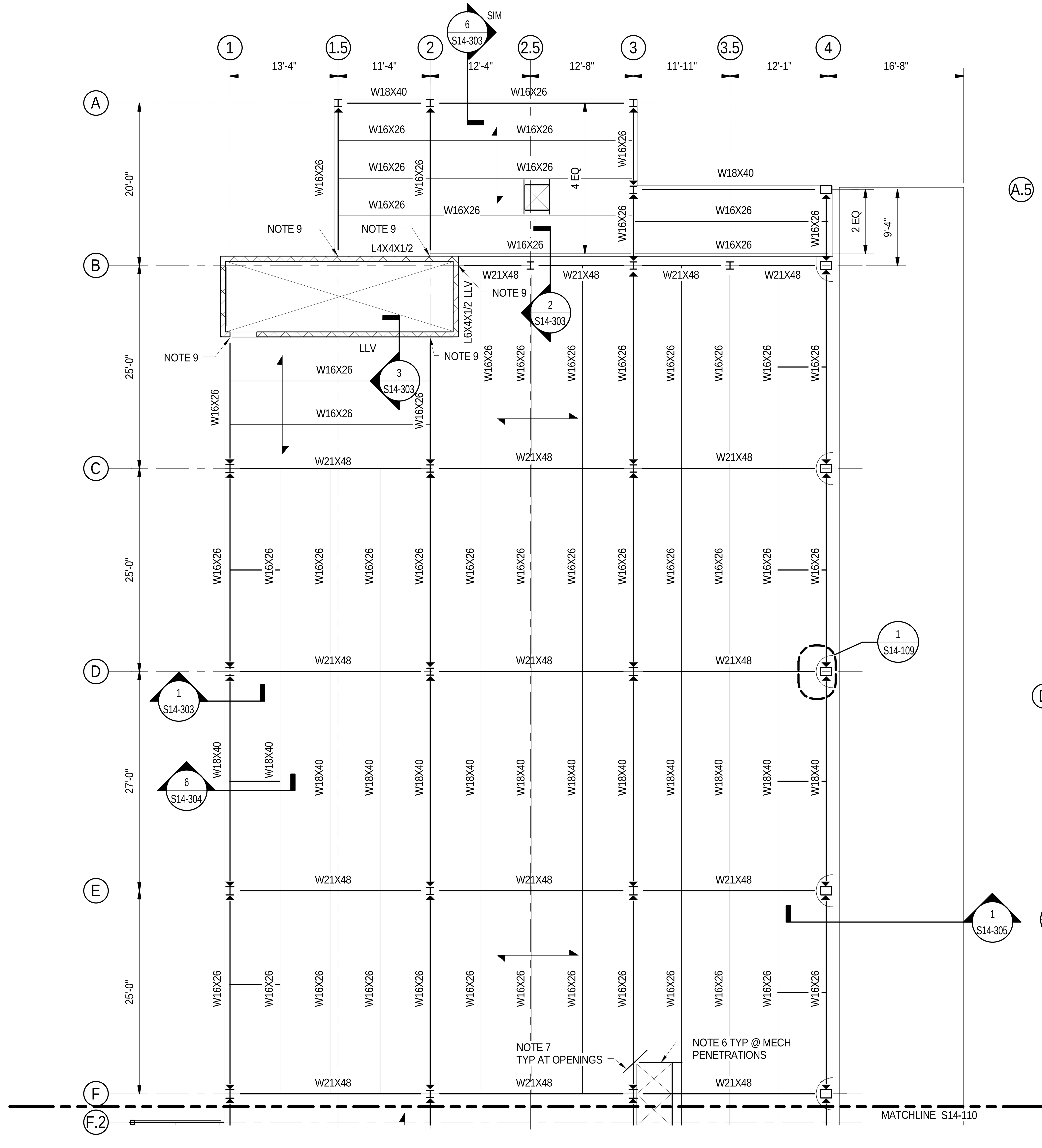


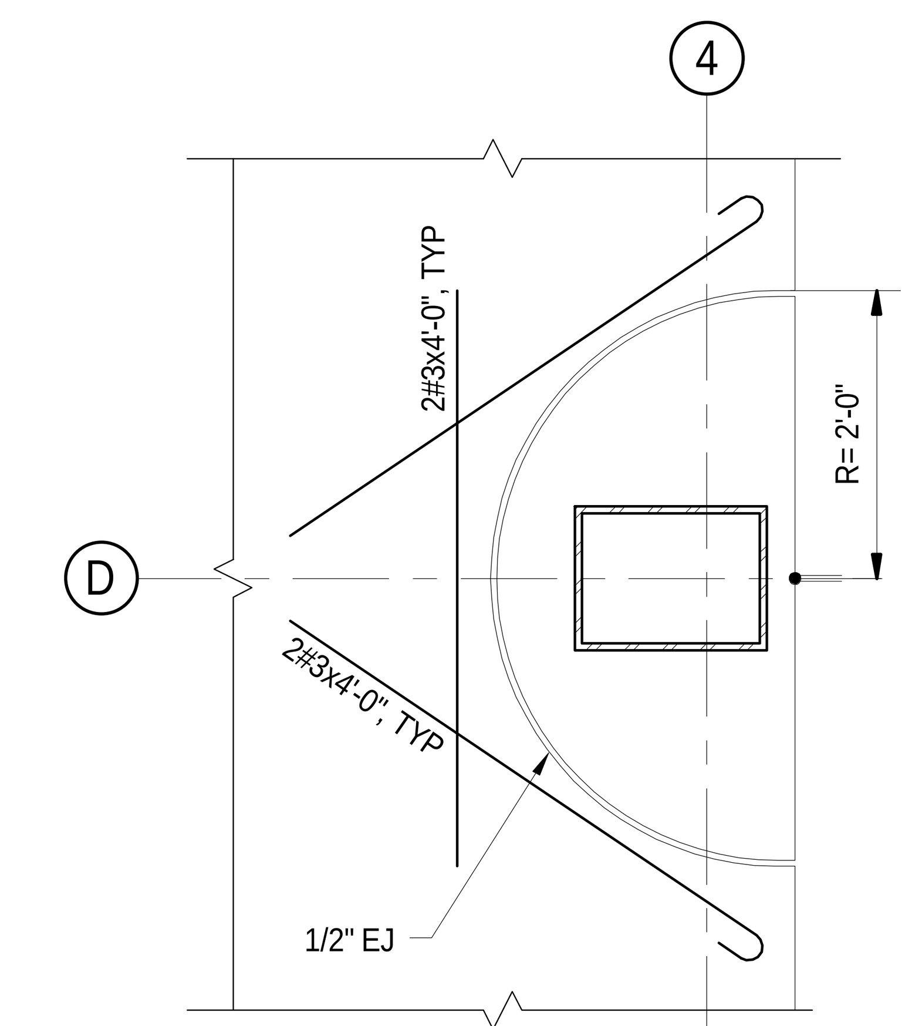
STRUCTURAL SECOND FLOOR FRAMING PLAN - AREA A

1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH



1 S14-109 DETAIL

3/4" = 1'-0"

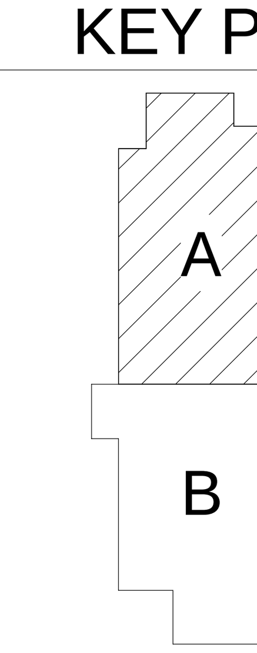
SCALE: 3/4" = 1'-0"

0 9" 1'-6" 3'

SHEET NOTES

1. TYPICAL TOP OF STEEL BEAM ELEVATION SHALL BE 21'-9" TO DATUM, UNO.
2. FLOOR SLAB SHALL BE 3" CONCRETE ON 2" DEEP, 20 GAGE FORM DECK. TOTAL DEPTH 5". PROVIDE 6x6-W2.1xW2.1 WWR IN CONCRETE WITH 1 1/2" COVER.
3. LOW ROOF NORTH OF LINE B AND SOUTH OF LINE I SHALL BE 1 1/2" DEEP 20 GAGE STEEL DECK.
4. REFER TO S14-002 FOR STEEL DECK PROPERTIES AND ANCHORAGE REQUIREMENT.
5. FRAMING BEAM MAX ALLOWABLE SPACING:
   FLOOR AREA - 6'-3"
   ROOF AREA - 6'-6"
6. PROVIDE L4x4x1/2 TO FRAME EDGE OF SLAB OPENING, UNO. SEE DETAIL 1 ON SHEET S14-207
7. SEE DETAIL 5 ON SHEET S14-204 FOR TYPICAL REINFORCING AT SLAB OPENINGS.
8. COORDINATE INSTALLATION OF FLOOR BOXES WITH ELECTRICAL AND COMM TRADE CONTRACTORS.
9. BEAMS BEARING ON CMU WALLS USE TYPICAL DETAILS FOUND ON S14-208.
10. BOTTOM FLANGE BRACING PROVIDED DUE TO STRENGTH REQUIREMENTS OF MOMENT FRAME.
11. COORDINATE DETAILS OF STAIR CONSTRUCTION WITH MANUFACTURER.
12. PROVIDE ANGLES FOR LOW ROOF OPENINGS AS SHOWN IN DETAIL 1/S14-207.
13. PROVIDE ADDITIONAL ANGLE USING ROOF OPENING DETAIL FOR SUPPORT OF MECHANICAL UNIT RTU-2.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 07/31/14

DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

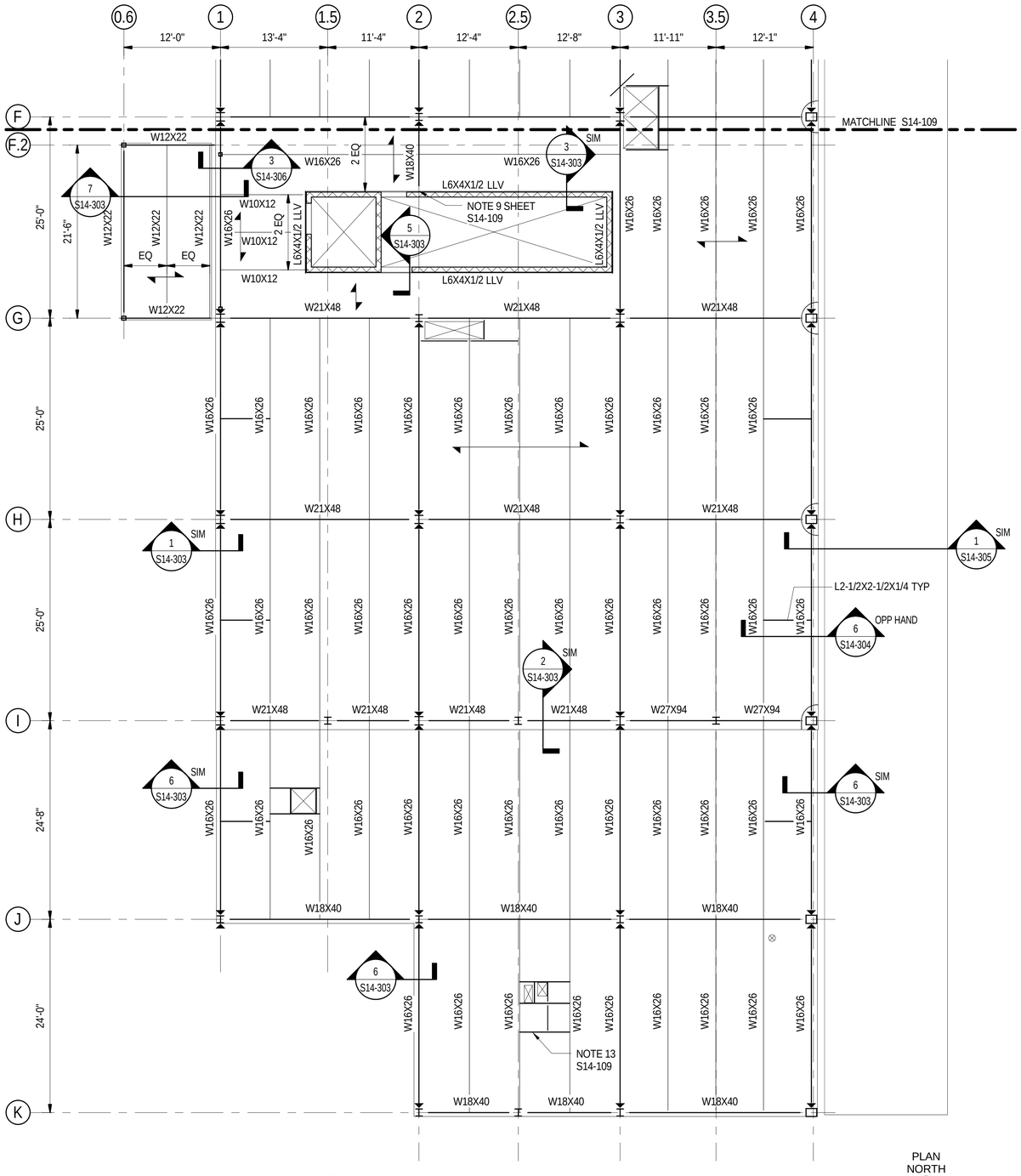
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECOND FLOOR FRAMING PLAN - AREA A

PROJECT NO: 301-0124

DRAWING NO: S14-109

SHEET NO: 09.12



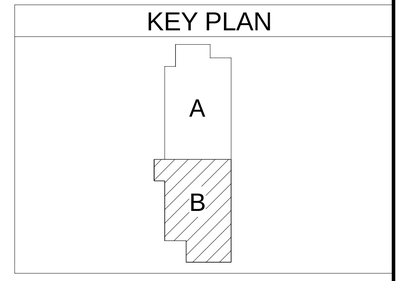
STRUCTURAL SECOND FLOOR FRAMING PLAN - AREA B

1/8" = 1'-0"

SHEET NOTES

1. SEE SHEET S14-109 FOR PLAN NOTES RELATING TO SECOND FLOOR FRAMING PLAN.

KEY PLAN



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH

CHECKED BY: SWC

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT, STEVEN S. CHASE, No. 28468, LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECOND FLOOR FRAMING PLAN - AREA B

PROJECT NO: 301-0124

DRAWING NO: S14-110

SHEET NO: 09.13

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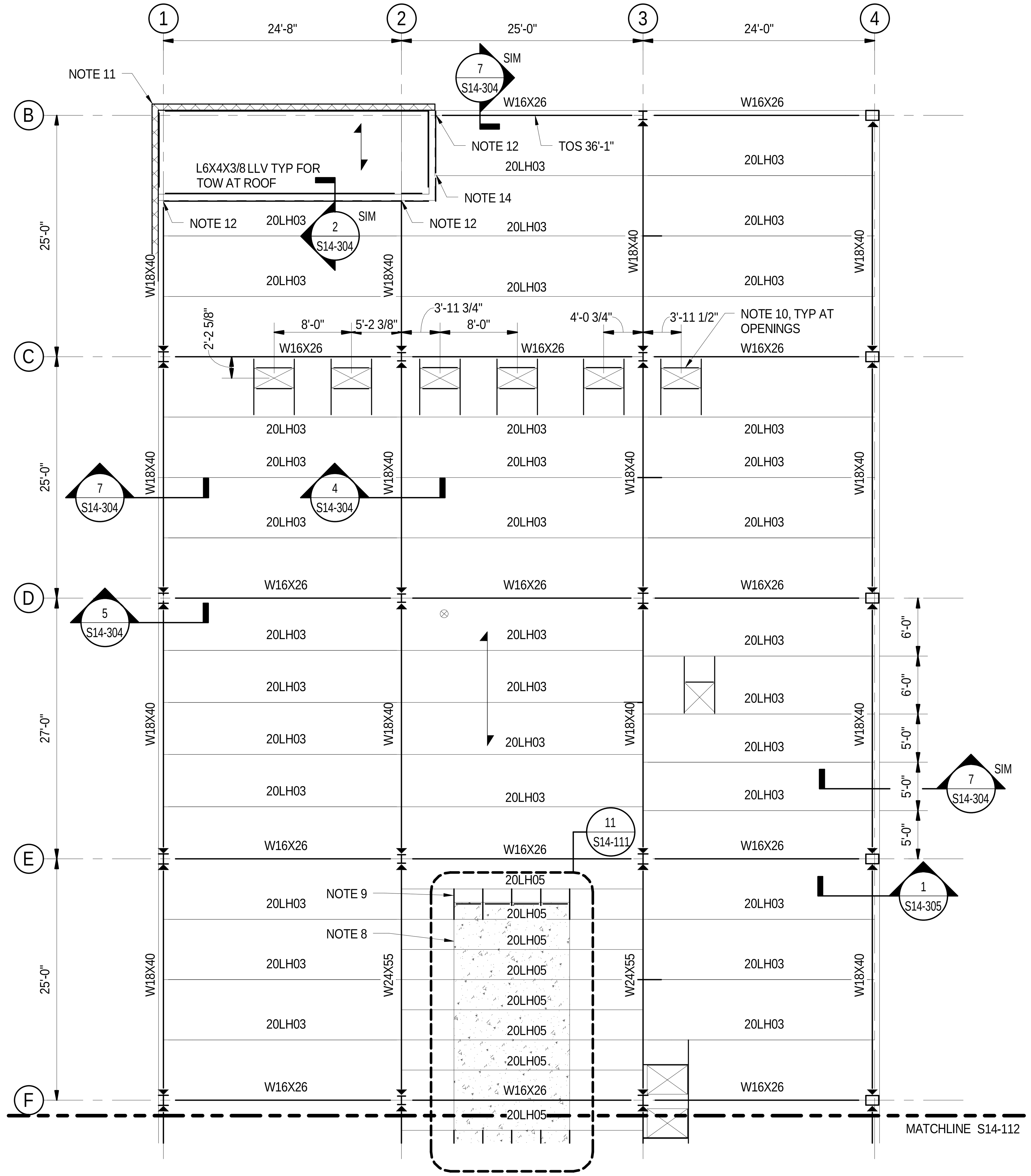
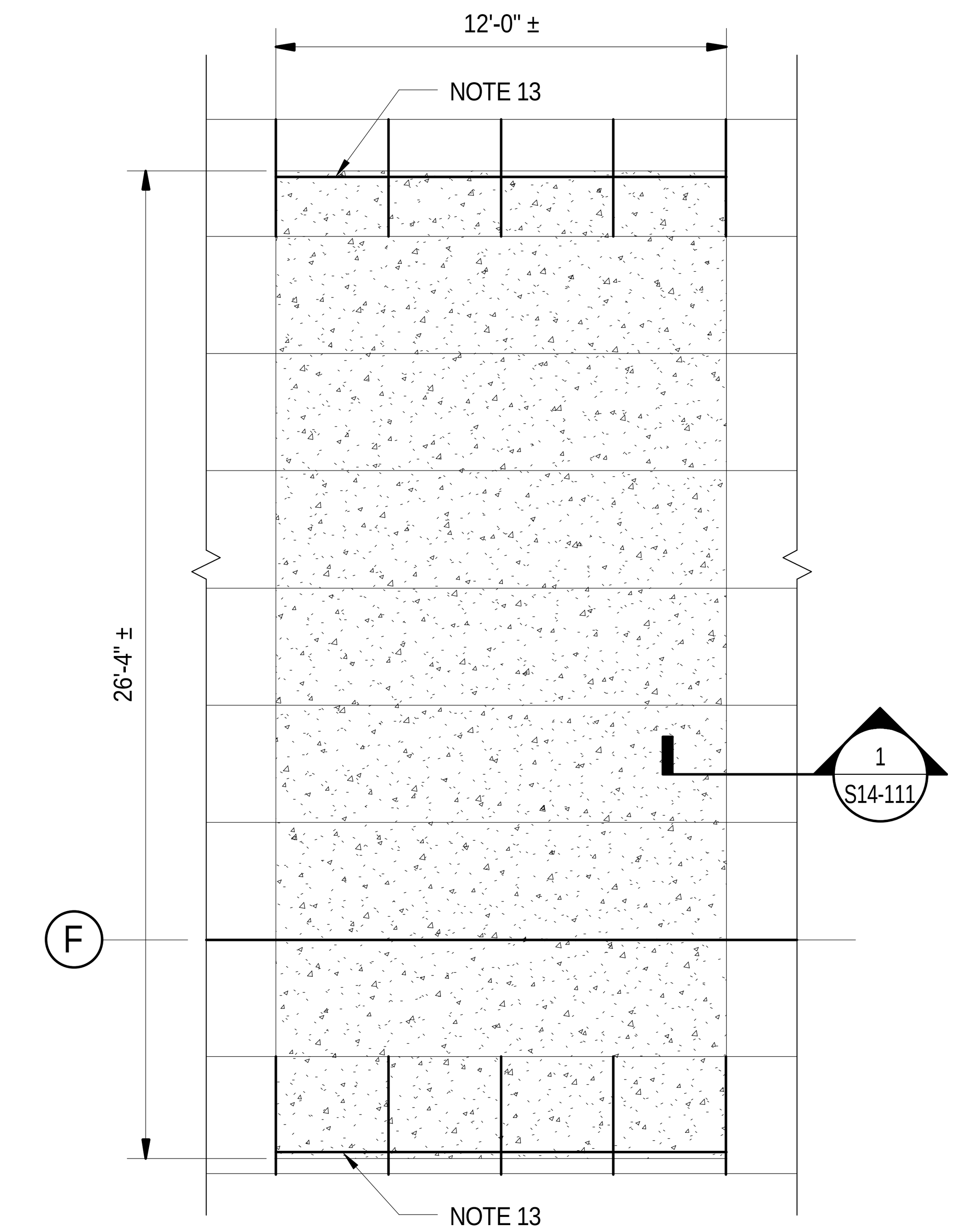


STRUCTURAL ROOF FRAMING PLAN - AREA A

1/8" = 1'-0"

SCALE: 1/8" = 1'-0" 0 4' 8' 16'

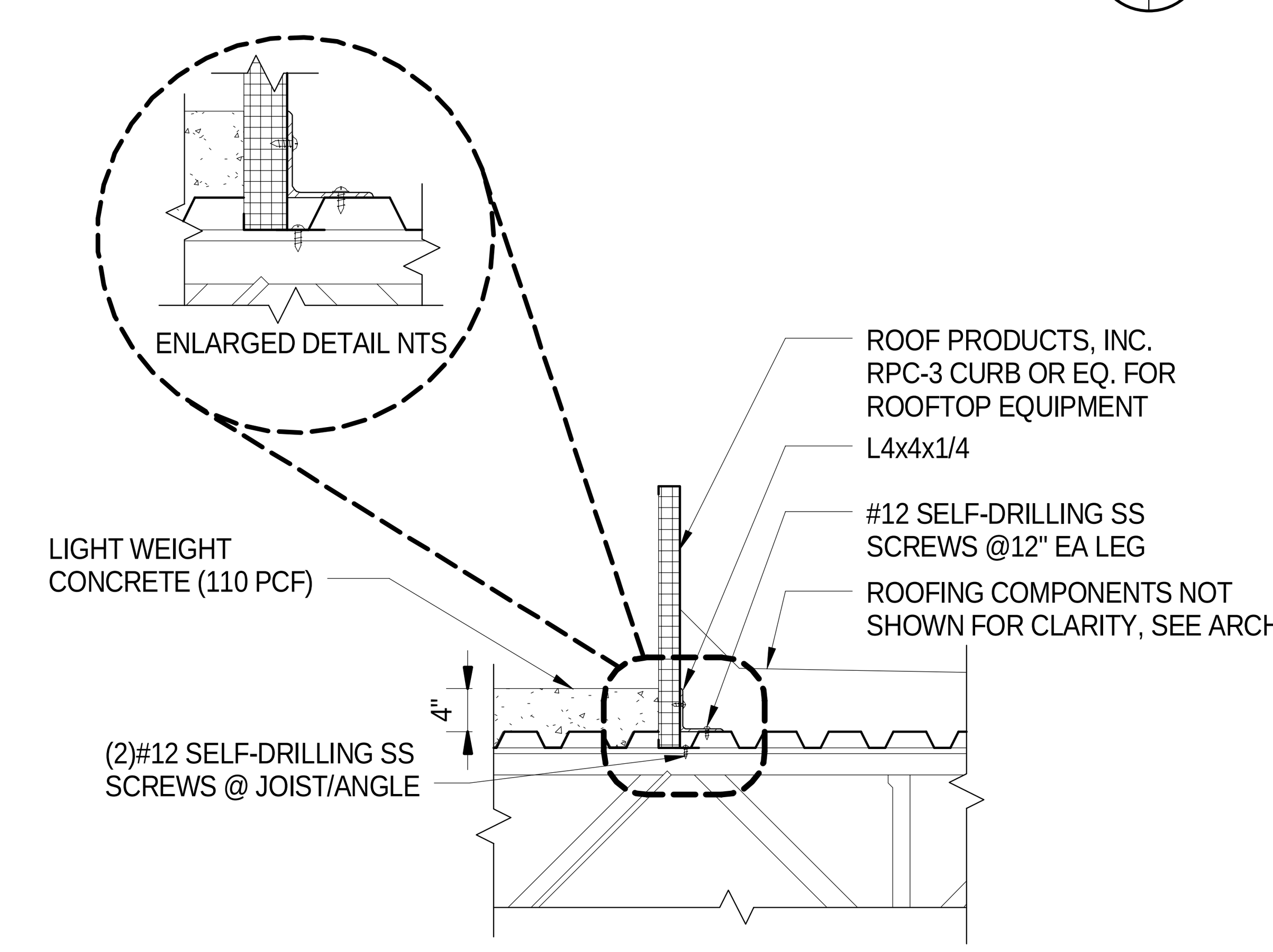
PLAN NORTH



CURB PLAN

SCALE: 1/4" = 1'-0" 0 2' 4' 8'

PLAN NORTH



1 S14-111 CURB DETAIL

3/4" = 1'-0"

SCALE: 3/4" = 1'-0" 0 9" 1'-6" 3'

SHEET NOTES

1. ROOF DECK IS 1 1/2" DEEP 20 GAGE STEEL DECK UNO.
2. ROOF DECK IS 3" DEEP 20 GAGE STEEL DECK FOR ROOF COVERING ELEVATOR AND STAIRWELLS.
3. REFER TO GENERAL NOTES ON SHEET S14-002 FOR STEEL DECK PROPERTIES AND CONNECTION REQUIREMENTS. FASTEN ROOF DECK TO SUPPORTS AND PERIMETER BEAMS AS SHOWN IN DETAILS.
4. JOISTS ARE EQUALLY SPACED WITHIN EACH BAY. MAXIMUM JOIST SPACING IN BAYS BETWEEN COLUMN LINES 2-3 AND E-I IS 3'-3". MAXIMUM JOIST SPACING IN ALL OTHER AREAS IS 6'-6".
5. JOIST BRIDGING LAYOUT AND DESIGN TO BE PROVIDED BY MANUFACTURER. CONTRACTOR SHALL COORDINATE BRIDGING WITH RUNNING OF OTHER TRADES AND MAKE ADJUSTMENT SUBJECT TO THE APPROVAL OF EOR.
6. GIRDER TOP OF STEEL ELEVATION AT ELEVATIONS SHOWN BELOW:

GRID LINE	TOS ELE
1	35'-6"
2	36'-1"
3	36'-1"
4	35'-6"

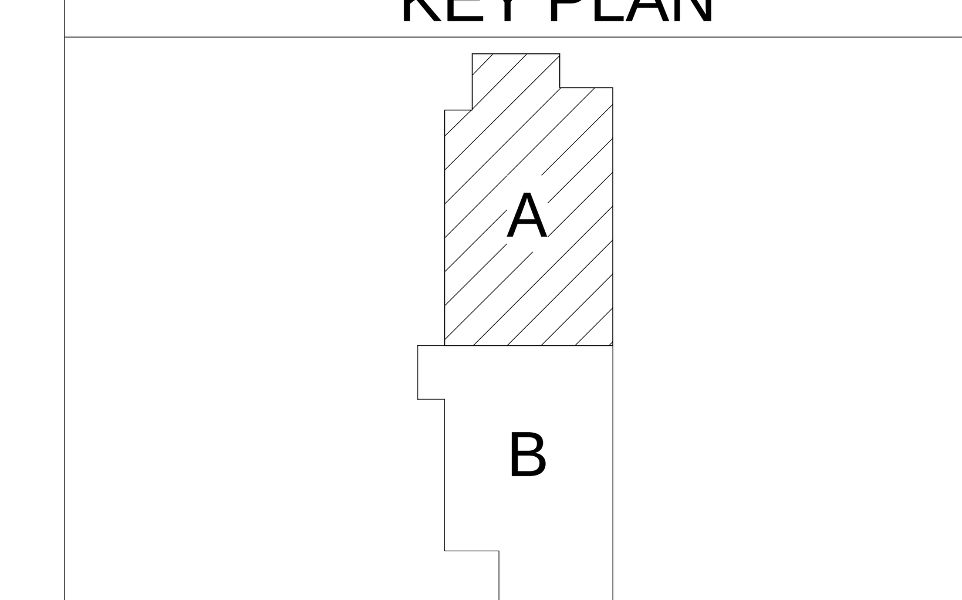
BEAMS RUNNING EW HAVE TOS ELE 5" ABOVE GIRDER TO MATCH JOIST SEAT TOS ELE UNO.

7. PREMANUFACTURED STEEL JOISTS TO BE DESIGNED FOR THE UNFACTORED AREA LOADS INDICATED IN THE TABLE BELOW:

JOIST	DEAD	SNOW	NET UPLIFT FACTORED 0.9D + 1.0W	NOTES
20LH03	27 PSF	47 PSF	-32 PSF	
20LH05	90 PSF	30 PSF	-32 PSF	NOTE 7

8. JOISTS SUPPORTING ROOFTOP EQUIPMENT CURBS PERPENDICULAR TO JOISTS SHALL BE DESIGNED FOR CONCENTRATED UNFACTORED DEAD LOADS OF 920 LBS. COORDINATE LOCATION OF PANEL POINTS FOR SUPPORTING CURBS WITH MECHANICAL DRAWINGS.
9. EQUIPMENT CURBS RUNNING PARALLEL TO JOISTS ARE SUPPORTED BY ANGLES SPANNING BETWEEN JOIST PANEL POINTS USING DETAIL 1 ON S14-207. MAXIMUM SUPPORT ANGLE SPACING 3'-0".
10. ROOF OPENING DIMENSIONS FOR SKYLIGHT AND DUCTWORK FRAMING MUST BE COORDINATED WITH PRODUCT MANUFACTURERS. SEE DETAIL 1 ON S14-207 FOR STEEL SIZES.
11. AT NORTHWEST ROOF EDGE, CONTINUE CMU WALL TO ELE 40'-0" TO PROVIDE SUPPORT FOR ARCHITECTURAL PARAPET.
12. BEAMS BEARING ON CMU WALLS USE TYPICAL DETAILS FOUND ON S14-208.
13. WHERE ROOFTOP EQUIPMENT CURB INTERRUPTS ROOF DECK PROVIDE ANGLES USING DETAIL 1 ON S14-207 TO SUPPORT THE DECK EDGE.
14. USE BEARING PLATE FROM DETAIL 4/S14-208 FOR JOIST SUPPORTED BY CMU WALL. CUT AND FIT CMU AROUND JOIST SEAT. PROVIDE BOND BEAM FOR ANCHORAGE OF BEARING PLATE.

KEY PLAN



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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

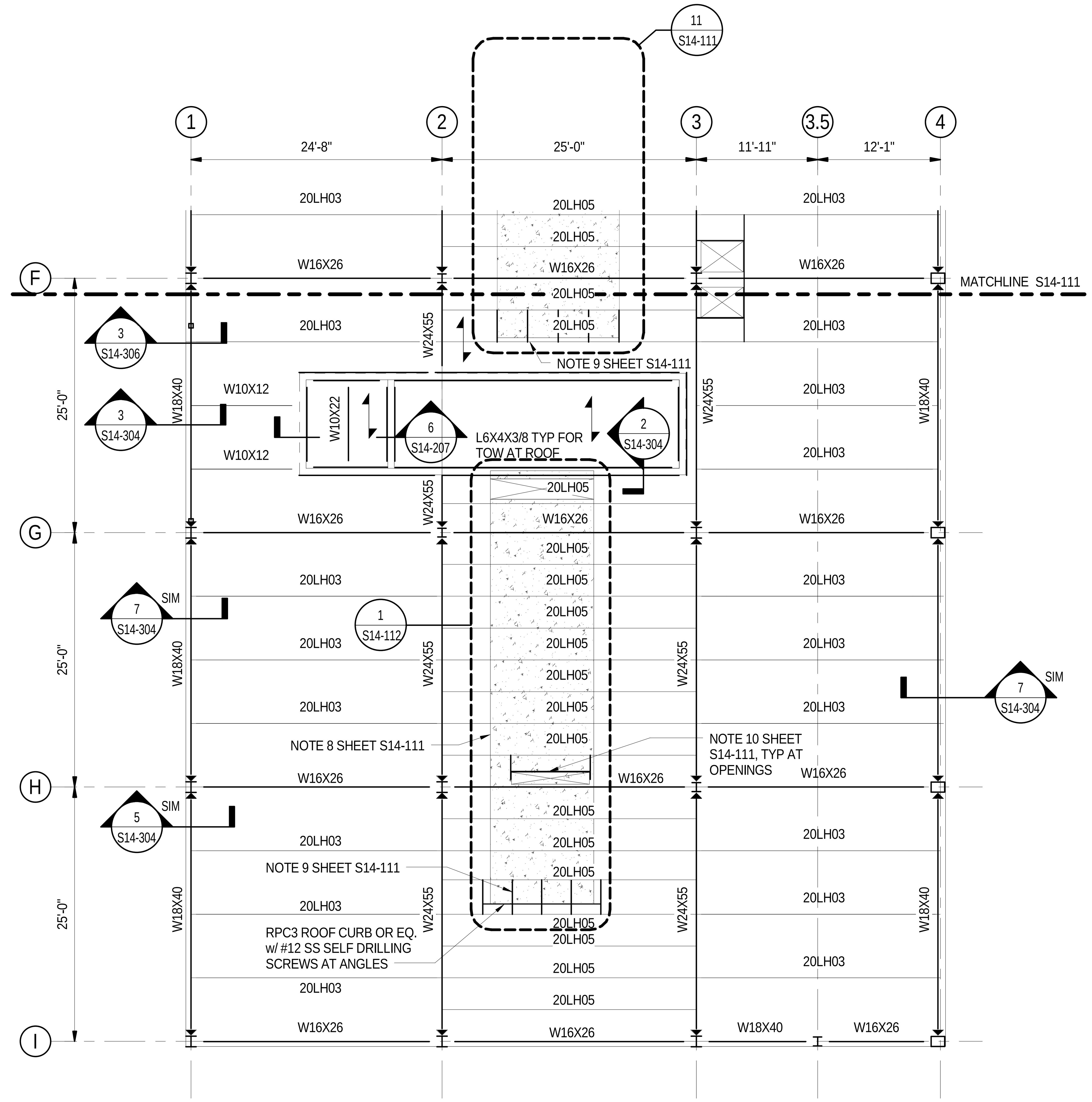
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL ROOF FRAMING PLAN - AREA A

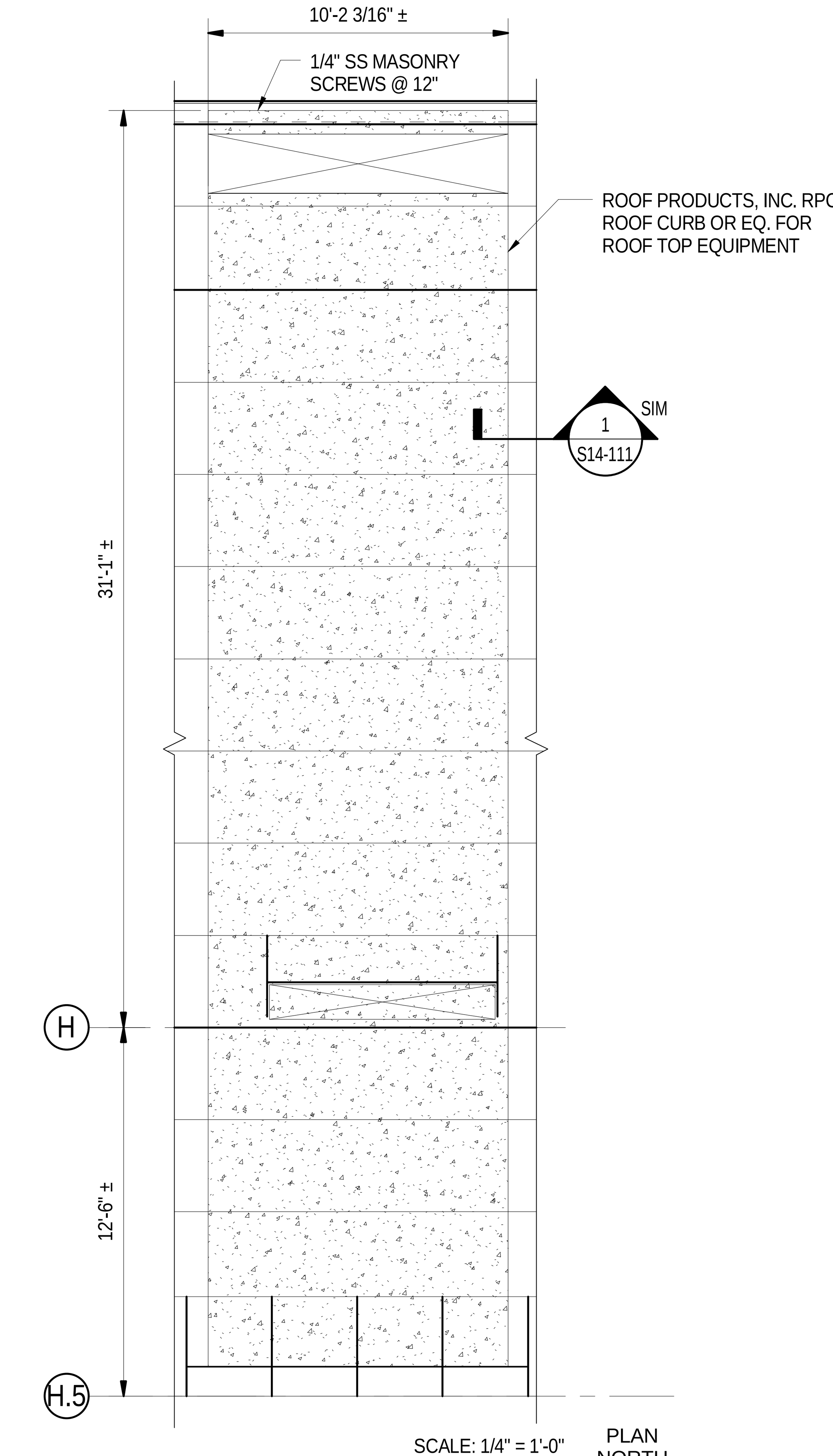
PROJECT NO: 301-0124
DRAWING NO: S14-111
SHEET NO: 09.14

SHEET NOTES

1. SEE SHEET S14-111 FOR PLAN NOTES RELATING TO STRUCTURAL ROOF FRAMING PLAN.

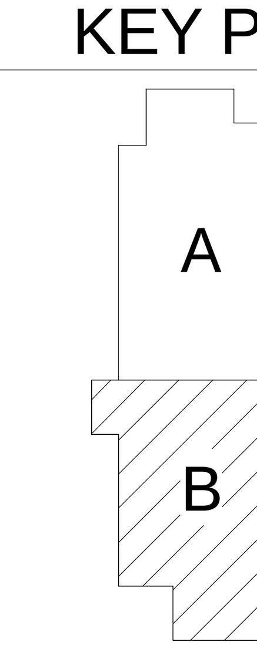


STRUCTURAL ROOF FRAMING PLAN - AREA B
1/8" = 1'-0"



1 S14-111 CURB PLAN
1/4" = 1'-0"

KEY PLAN



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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S. CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL ROOF FRAMING PLAN - AREA B

PROJECT NO: 301-0124
DRAWING NO: S14-112
SHEET NO: 09.15

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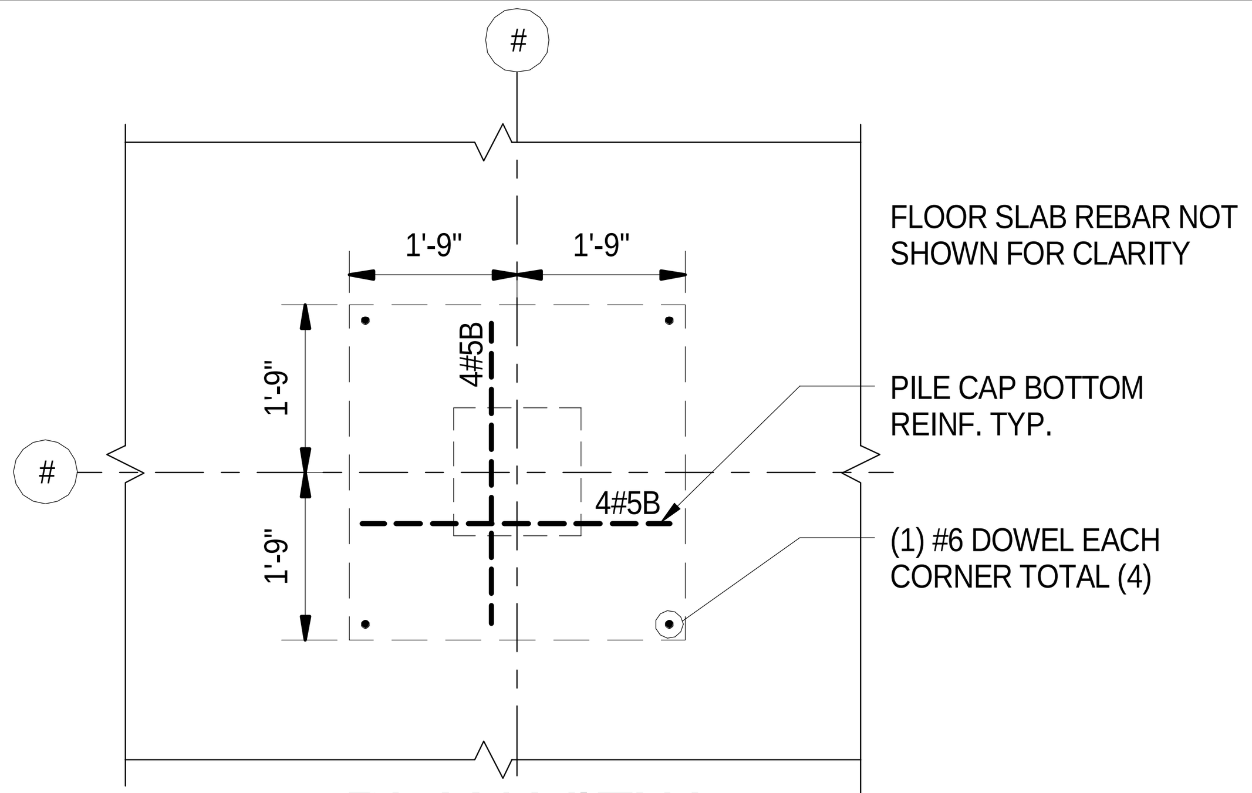
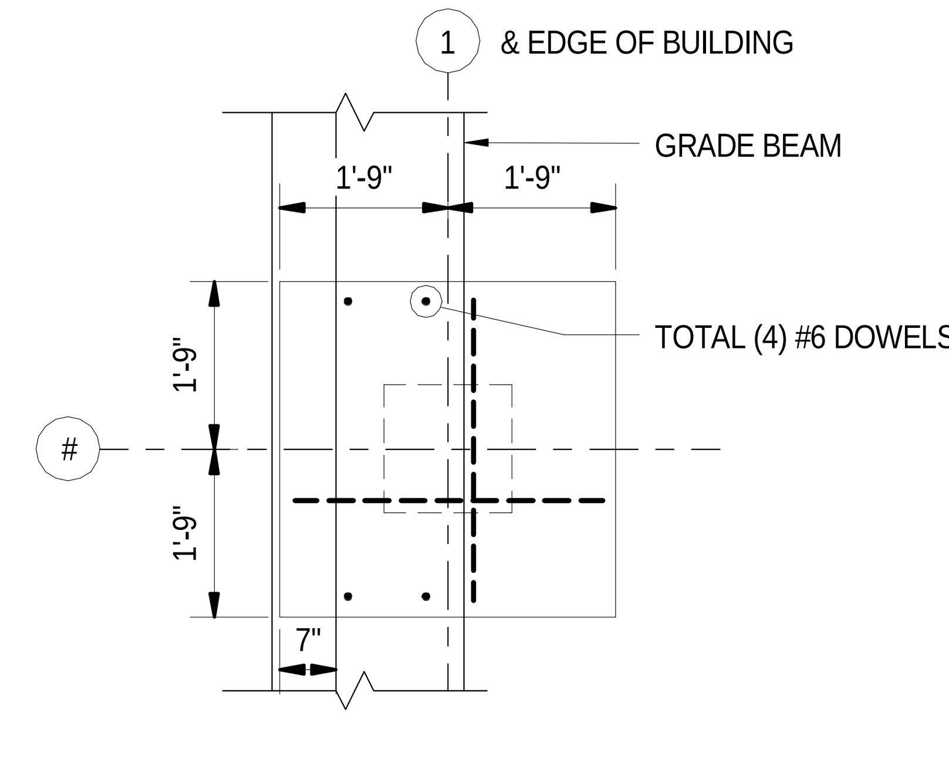
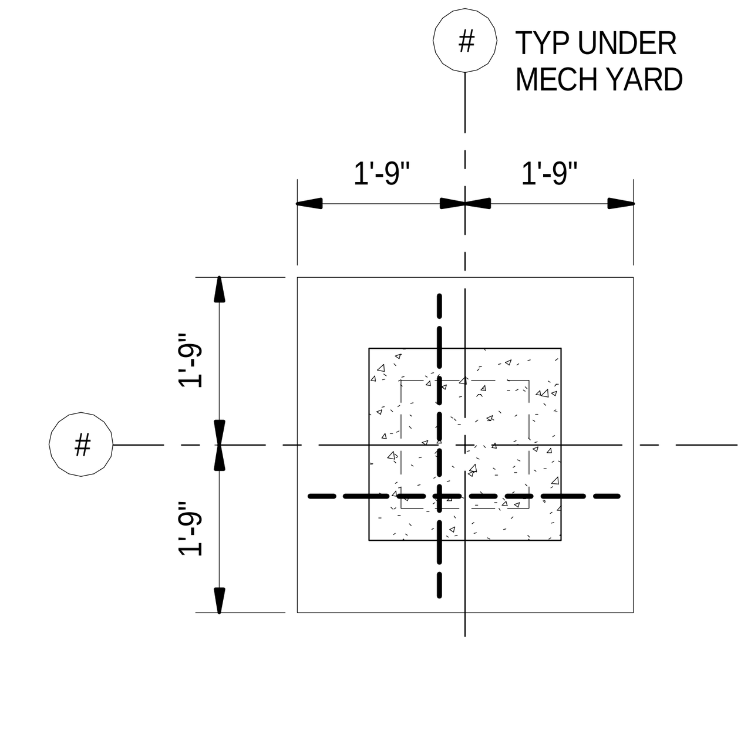


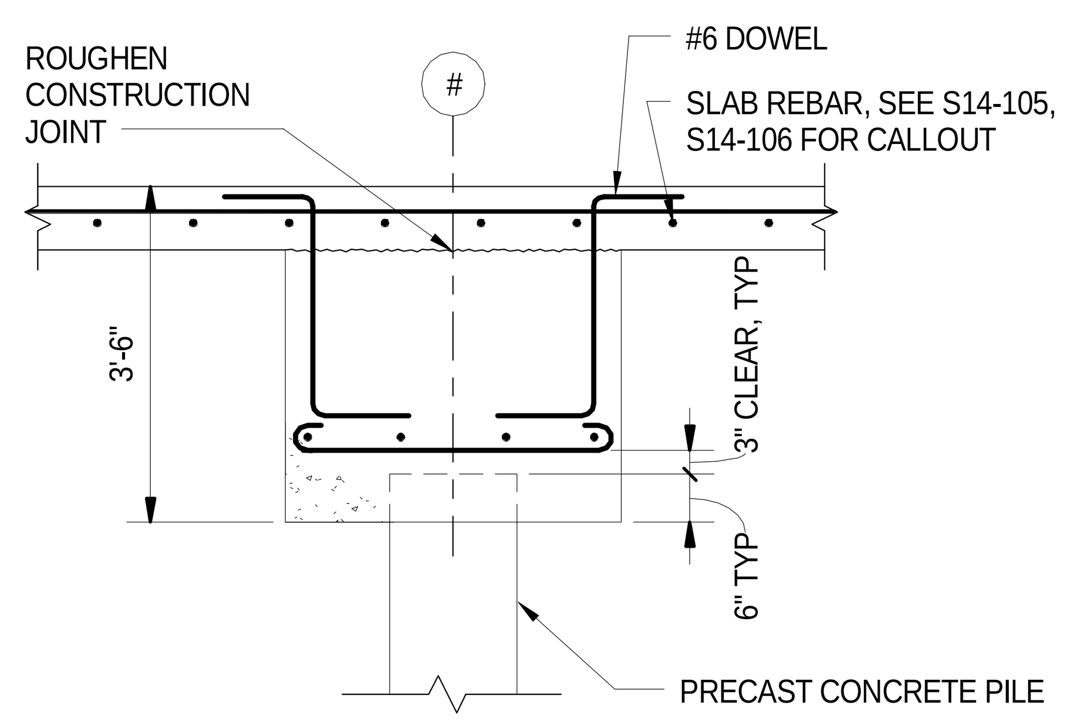
PLAN VIEW



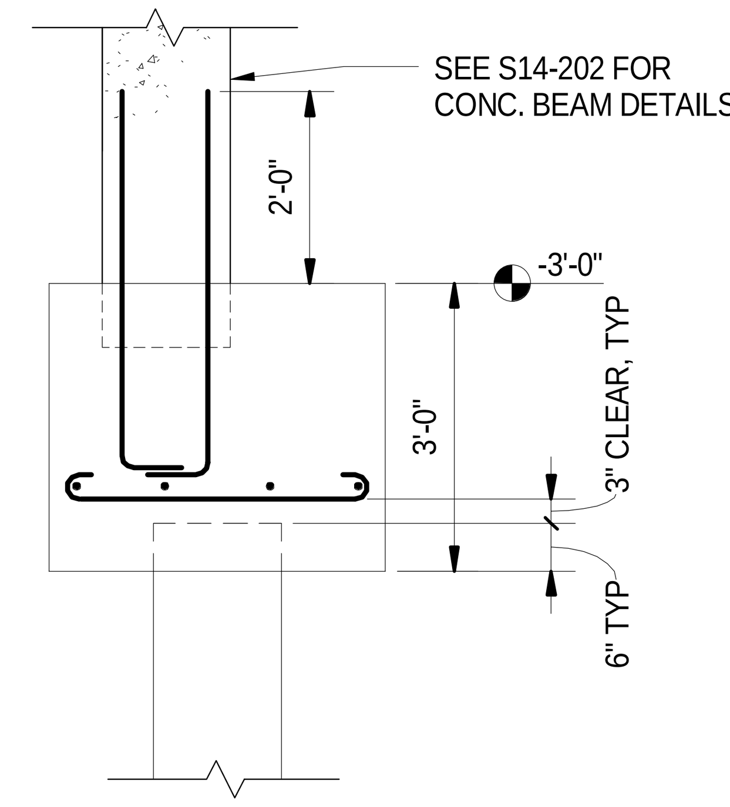
PLAN VIEW



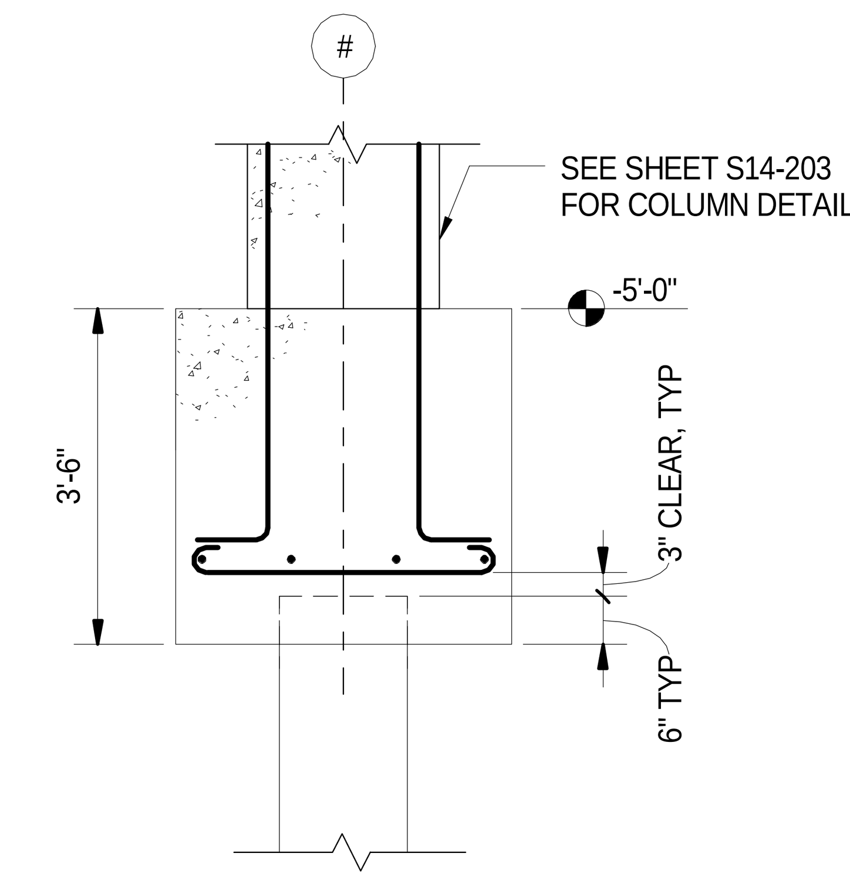
PLAN VIEW



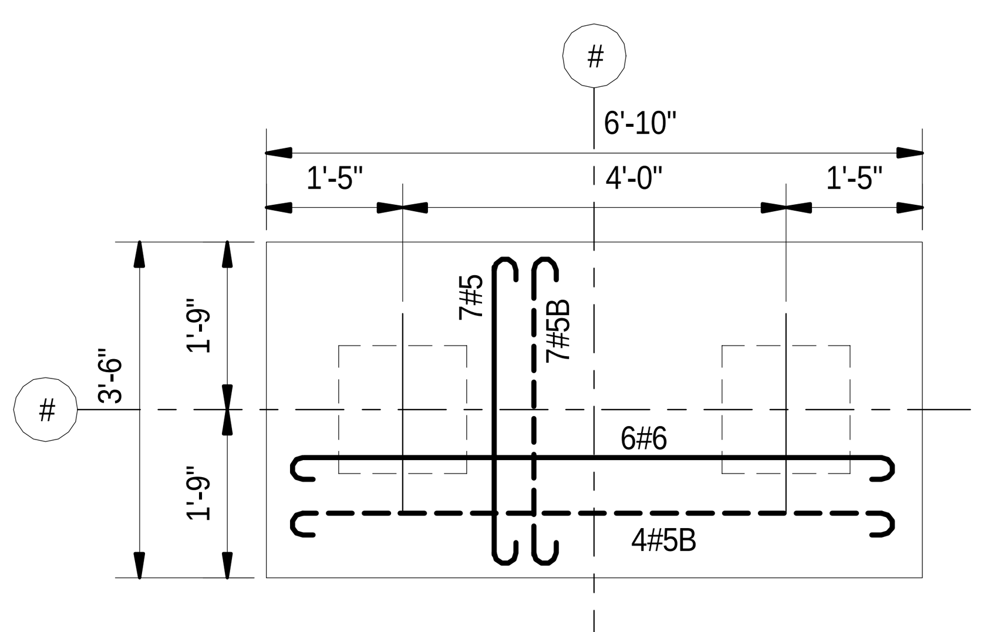
SECTION VIEW
PC-1 CASE 1



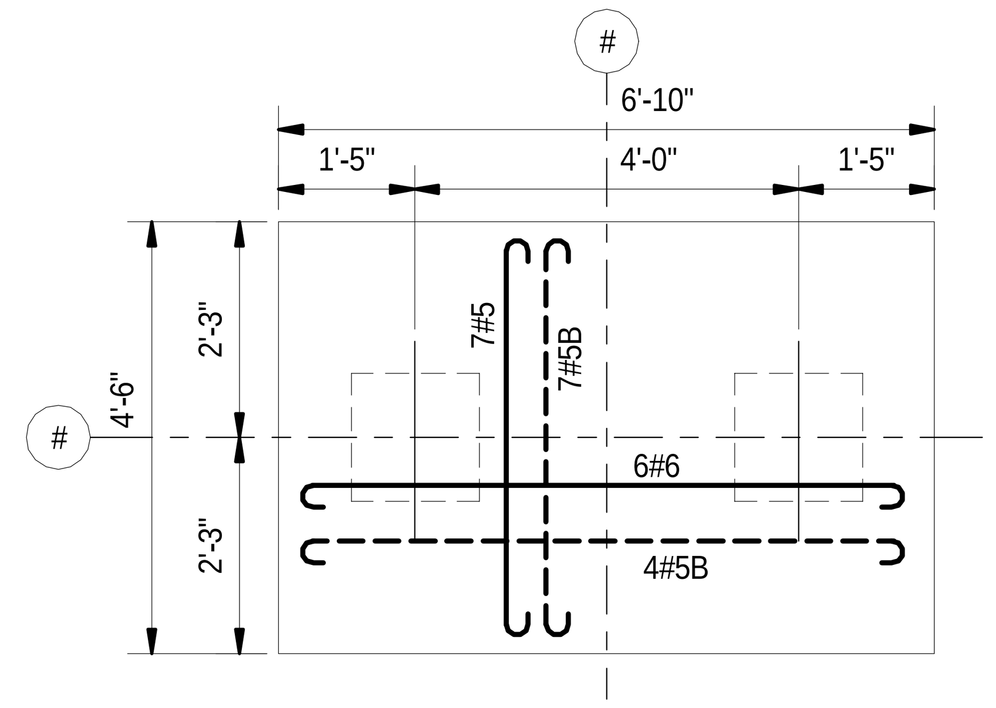
SECTION VIEW
PC-1 CASE 2



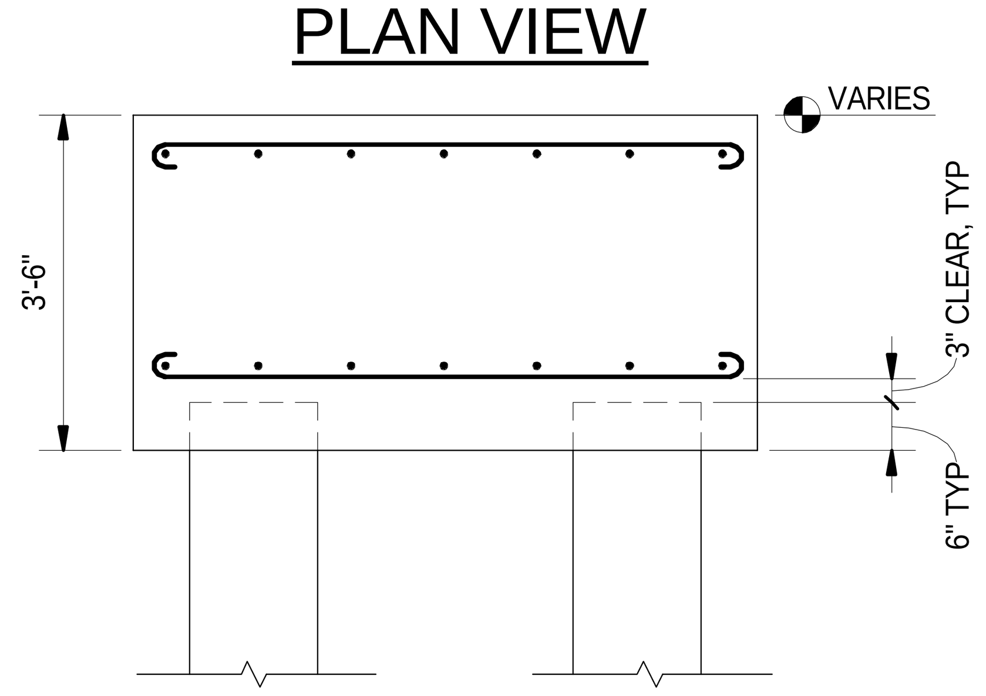
SECTION VIEW
PC-1 CASE 3



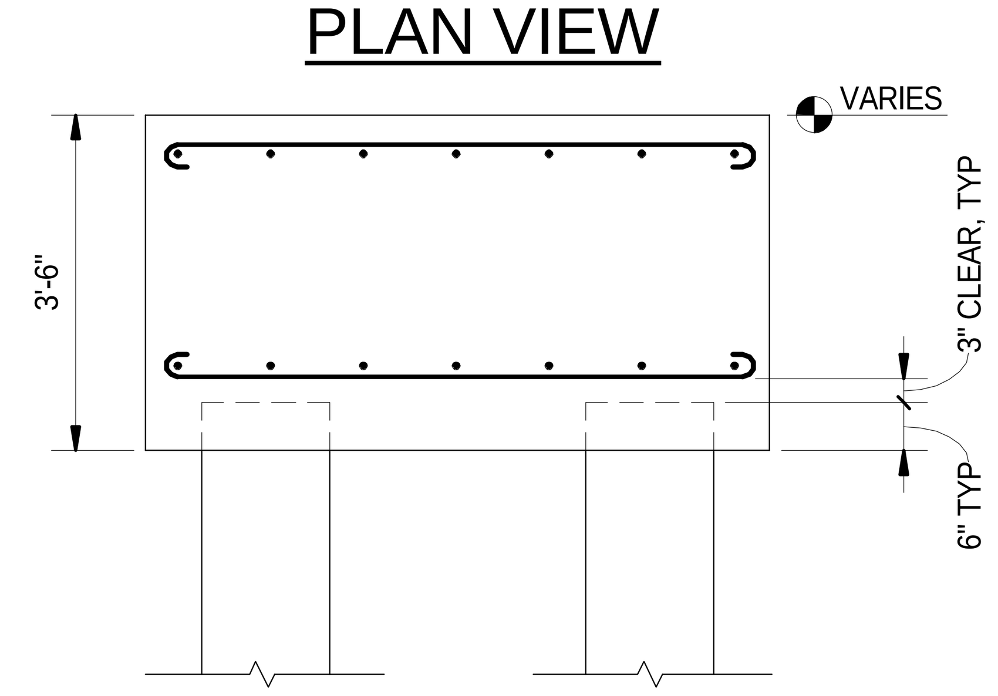
PLAN VIEW



PLAN VIEW



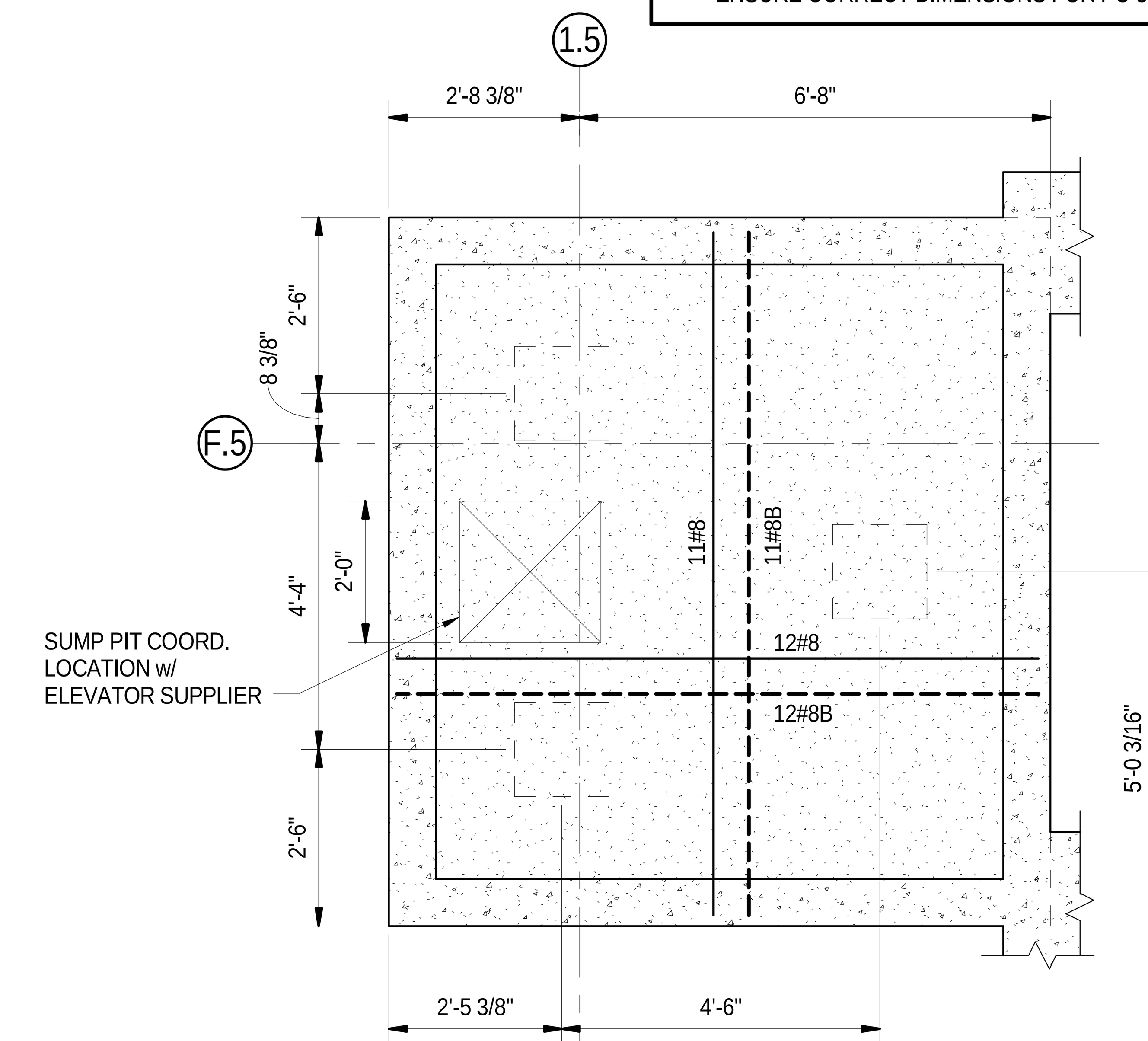
SECTION VIEW
PC-2



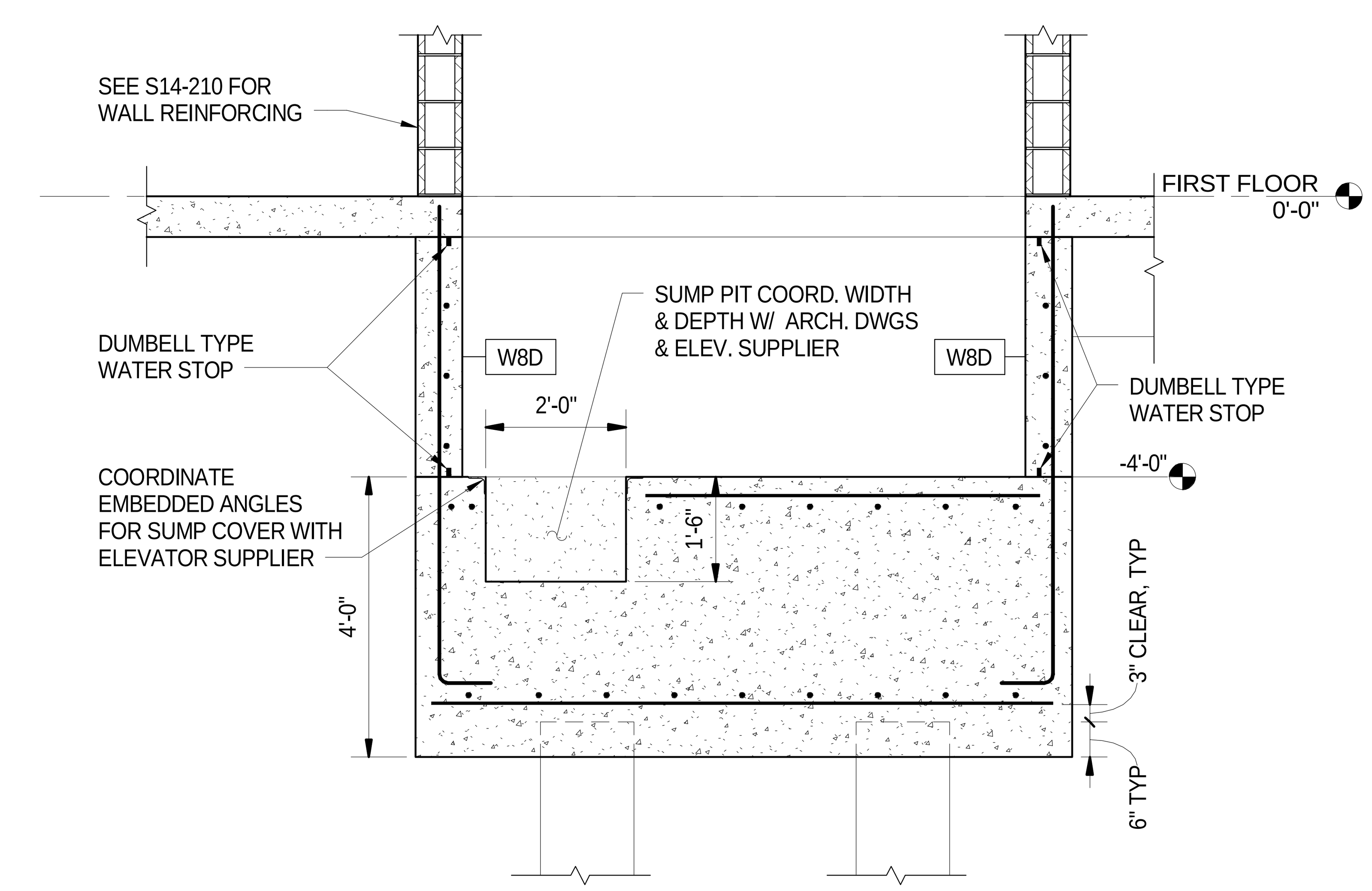
SECTION VIEW
PC-2S

SHEET NOTES

1. UNO, PILE CAP IS CENTERED ON GRID LINES.
2. SAMPLES OF THE COMMON PILE CAP CONNECTIONS TO THE STRUCTURE ARE SHOWN ON THIS SHEET. REFER TO SECTION CUTS IN 300 SERIES FOR OTHER CONNECTION CONFIGURATIONS.
3. PC-2 AND PC-2S USE DETAILS SIMILAR TO THOSE SHOWN FOR PC-1 FOR CONNECTION TO SLAB/BEAM/COLUMN.
4. VERIFY SIZE OF ELEVATOR PIT WITH APPROVED SHOP DRAWINGS TO ENSURE CORRECT DIMENSIONS FOR PC-3S.



PLAN VIEW



SECTION VIEW
PC-3S

PILE CAP DETAILS

1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL PILE CAP DETAILS

PROJECT NO: 301-0124
DRAWING NO: S14-201
SHEET NO: 09.16

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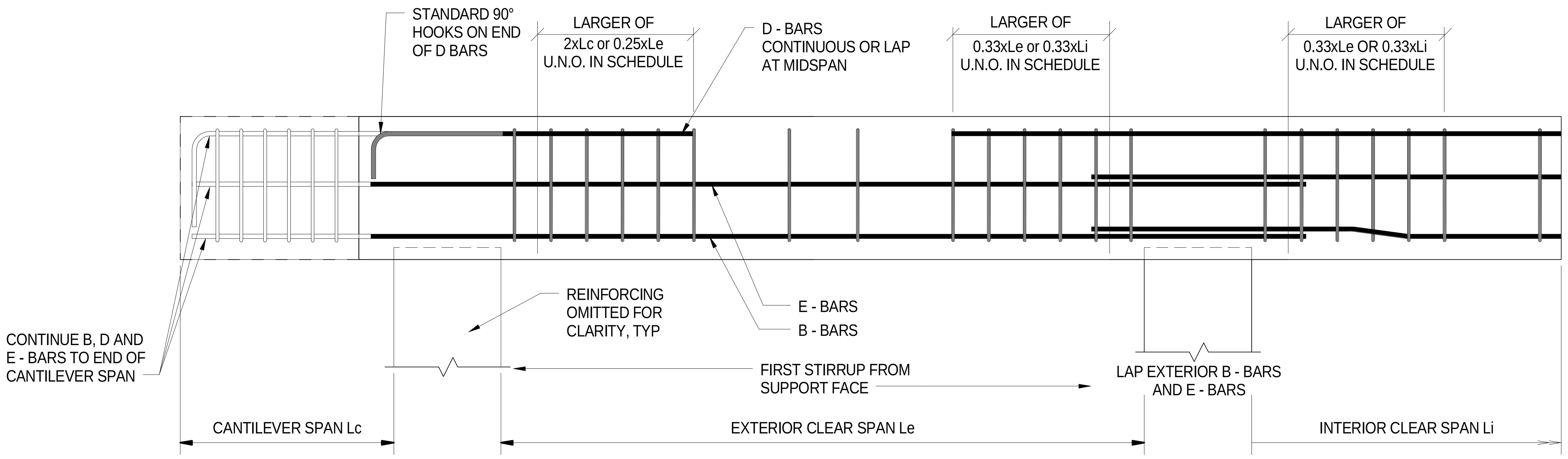
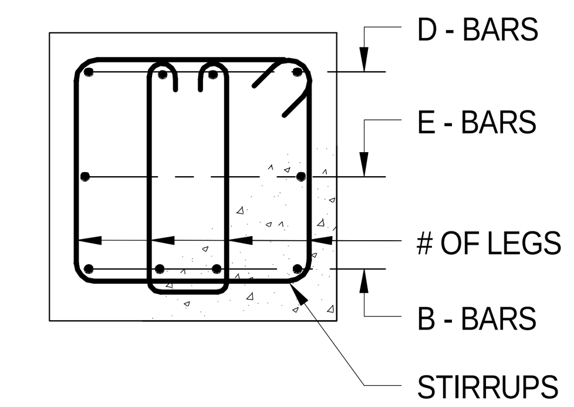
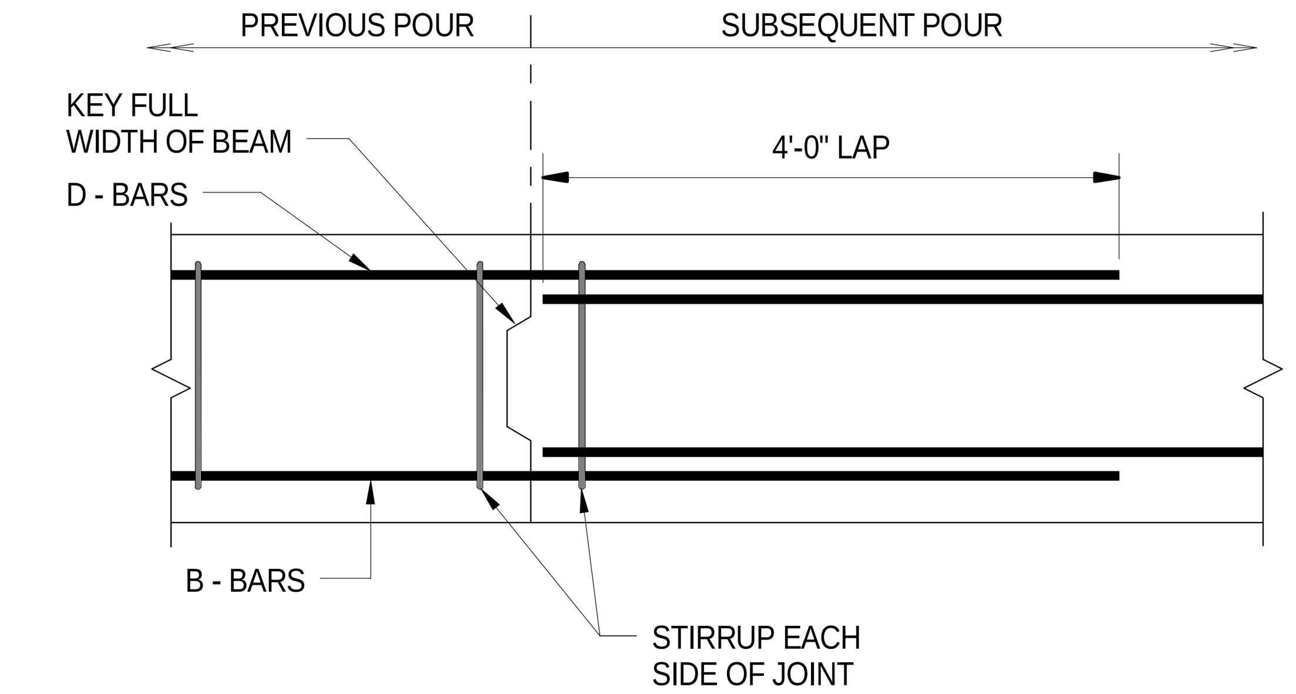


ELEVATION



SECTION



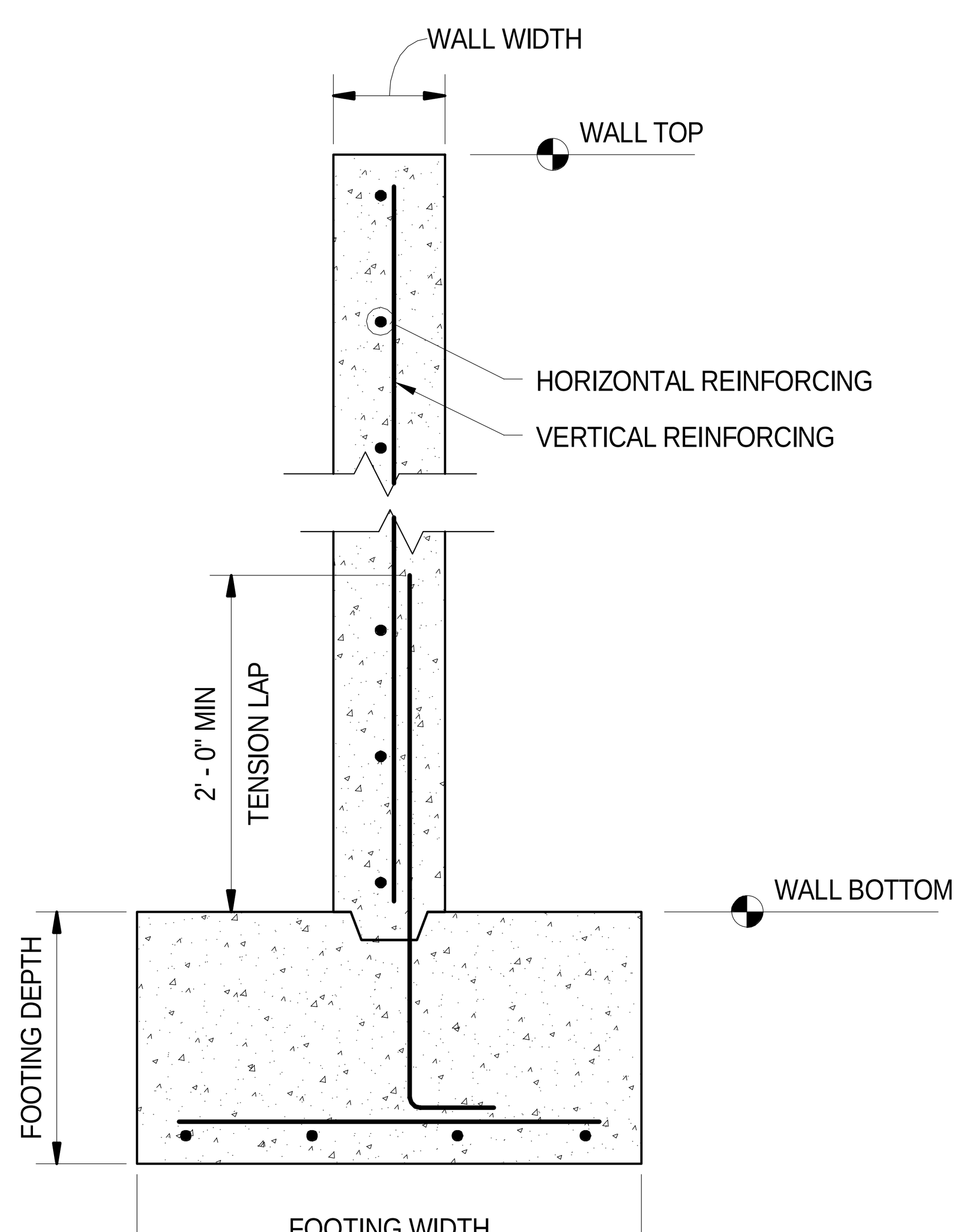
CONST. JOINT

NOTES:
1. LAP OUTSIDE FACE B - BARS OVER INTERIOR SUPPORTS AND EXTEND TO THE END OF EXTERIOR SUPPORTS.
2. INTERIOR B - BARS EXTEND 6" INTO SUPPORTS
3. WHERE AREA OF D - BARS ARE DIFFERENT IN ADJACENT SPANS, EXTEND D-BARS WITH GREATEST AREA TO MIDSPAN OF ADJACENT SPAN
4. E-BAR TIE SHALL OCCUR AT EACH E-BAR; TIE SHALL BE #3 AND SHALL MATCH STIRRUP SPACING

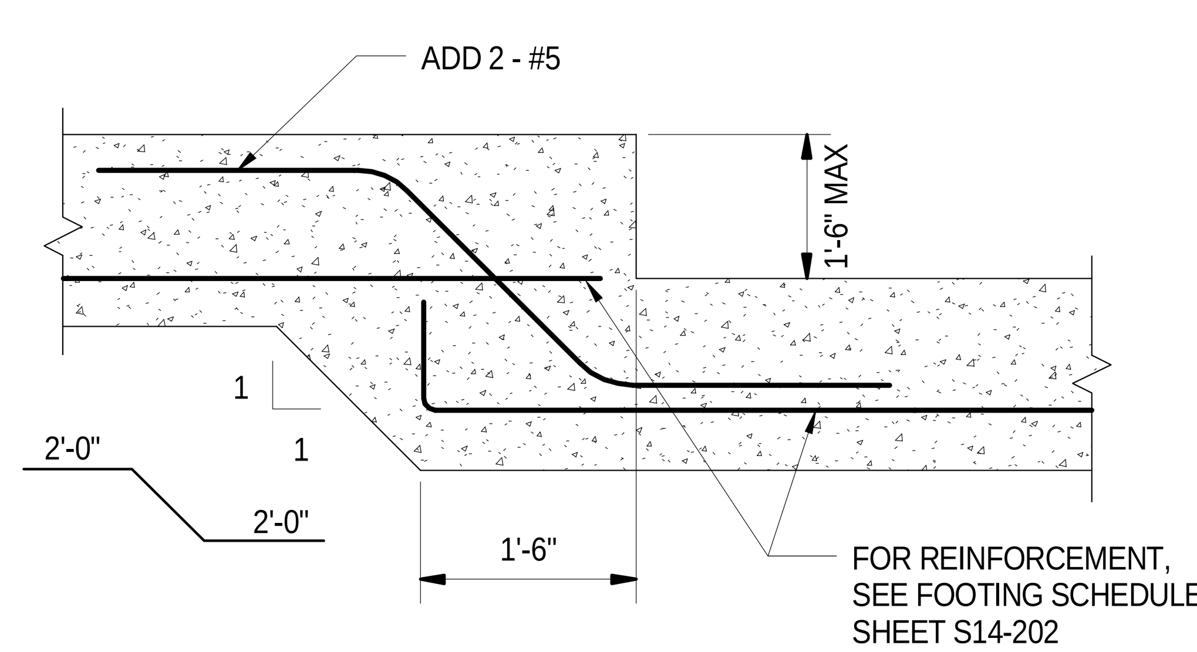
GRADE BEAM SCHEDULE

	DIMENSIONS		REINFORCING									
			B - BARS		D - BARS		E - BARS		STIRRUPS			
TYPE	WIDTH	DEPTH	QUANTITY	SIZE	QUANTITY	SIZE	QUANTITY	SIZE	SIZE	SPACING	# OF LEGS	TOP EL.
B16x37	16"	37"	2	#9	2	#9	3 EF	#7	#3	1' - 0"	2	-0'-7"
B16x48	16"	48"	3	#9	3	#9	5 EF	#7	#3	1' - 4"	2	-0'-7"
B24x24	24"	24"	3	#8	3	#8			#3	8"	2	0'-0"
B28x16	28"	16"	3	#9	3	#9			#3	6"	2	-1'-0"
B30x30	30"	30"	3	#8	3	#8			#4	9"	2	-5'-0"

1 GRADE BEAM DETAILS
NTS



2 CONCRETE WALL AND WALL FOOTING
NTS



3 STEP FOOTING DETAIL
NTS

WALL SCHEDULE

				REINFORCING		
TYPE	WIDTH	TOP	BOTTOM	HORIZONTAL	VERTICAL	COMMENTS
W8A	0'-8"	-0'-7"	-6'-6"	#4 @ 12"	#4 @ 12"	NOTE 4
W8B	0'-8"	-2'-6"	-6'-6"	#4 @ 12"	#4 @ 12"	
W8D	0'-8"	-0'-7"	-4'-0"	#4 @ 12"	#4 @ 12"	
W8E	0'-8"	0'-0"	-2'-0"	#4 @ 12"	#4 @ 12"	
W12A	1'-0"	0'-0"	-6'-0"	#5 @ 12" EF	#5 @ 12" EF	
W12B	1'-0"	-2'-0"	-6'-0"	#5 @ 12" EF	#5 @ 12" EF	
W12C	1'-0"	-0'-7"	-5'-0"	#5 @ 6", #5 @ 12"	#5 @ 12" EF	
W12D	1'-0"	-0'-7"	-5'-0"	#5 @ 6", #5 @ 12"	#5 @ 12" EF	NOTE 4; SEE SECTION ON S14-302
W12E	1'-0"	-1'-0"	-5'-0"	#5 @ 6", #5 @ 12"	#5 @ 12" EF	NOTE 4; SEE SECTION ON S14-301

NOTES:
1. TOP OF WALL HEIGHT FOR W8A AND W8B VARIES WHEN USED FOR CONCRETE RAMPS, AS SEEN IN PLANS/DETAILS.
2. REINFORCING CENTERED FOR SINGLE LAYER.
3. PLACE VERTICAL REINFORCING OUTSIDE HORIZONTAL REINFORCING WHEN REINFORCING EACH FACE.
4. TOW HEIGHTS MAY VARY ALONG EXETRIOR SLAB EDGES DUE TO DRAINAGE REQUIREMENTS. SLAB THICKNESS SHALL NOT BE REDUCED TO ALLOW FOR DRAINAGE- WALL ELEVATION SHALL BE LOWERED TO ALLOW FOR BEARING. COORDINATE CONSTRUCTION OF ALL EXTERIOR EDGE SLAB WALLS WITH DRAINAGE PLANS SEEN IN ARCHITECTURAL DRAWINGS.

WALL FOOTING SCHEDULE

	DIMENSIONS		REINFORCING				
			LONGITUDINAL		TRANSVERSE		
MARK	WIDTH	DEPTH	QUANTITY	SIZE	SIZE	SPACING	NOTES
WF1.33	1'-4"	1'-4"	3	4	4	4'-0"	
WF2.0	2'-0"	1'-6"	3	4	4	4'-0"	
WF4.0	4'-0"	1'-6"	3	4	4	4'-0"	
WF5.0	5'-0"	1'-6"	3	4	4	4'-0"	

NOTES:
1. WALL IS CENTERED OVER FOOTING UNO.

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

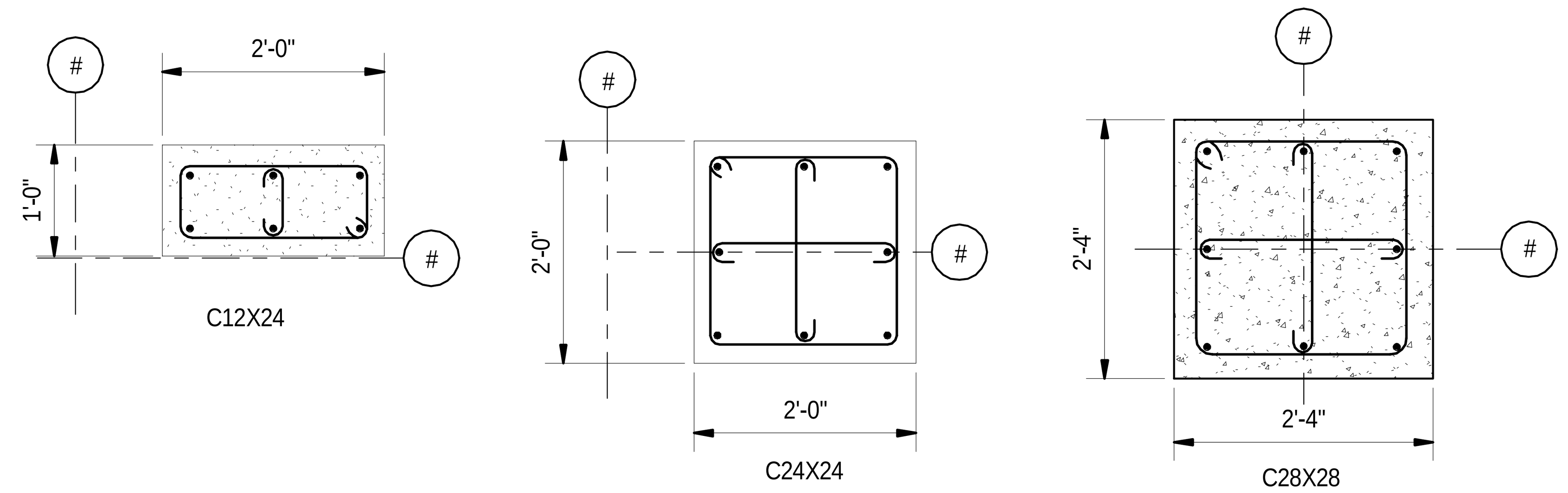
DRAWING TITLE: STRUCTURAL GRADE BEAM AND WALL SCHEDULE

PROJECT NO: 301-0124
DRAWING NO: S14-202
SHEET NO: 09.17

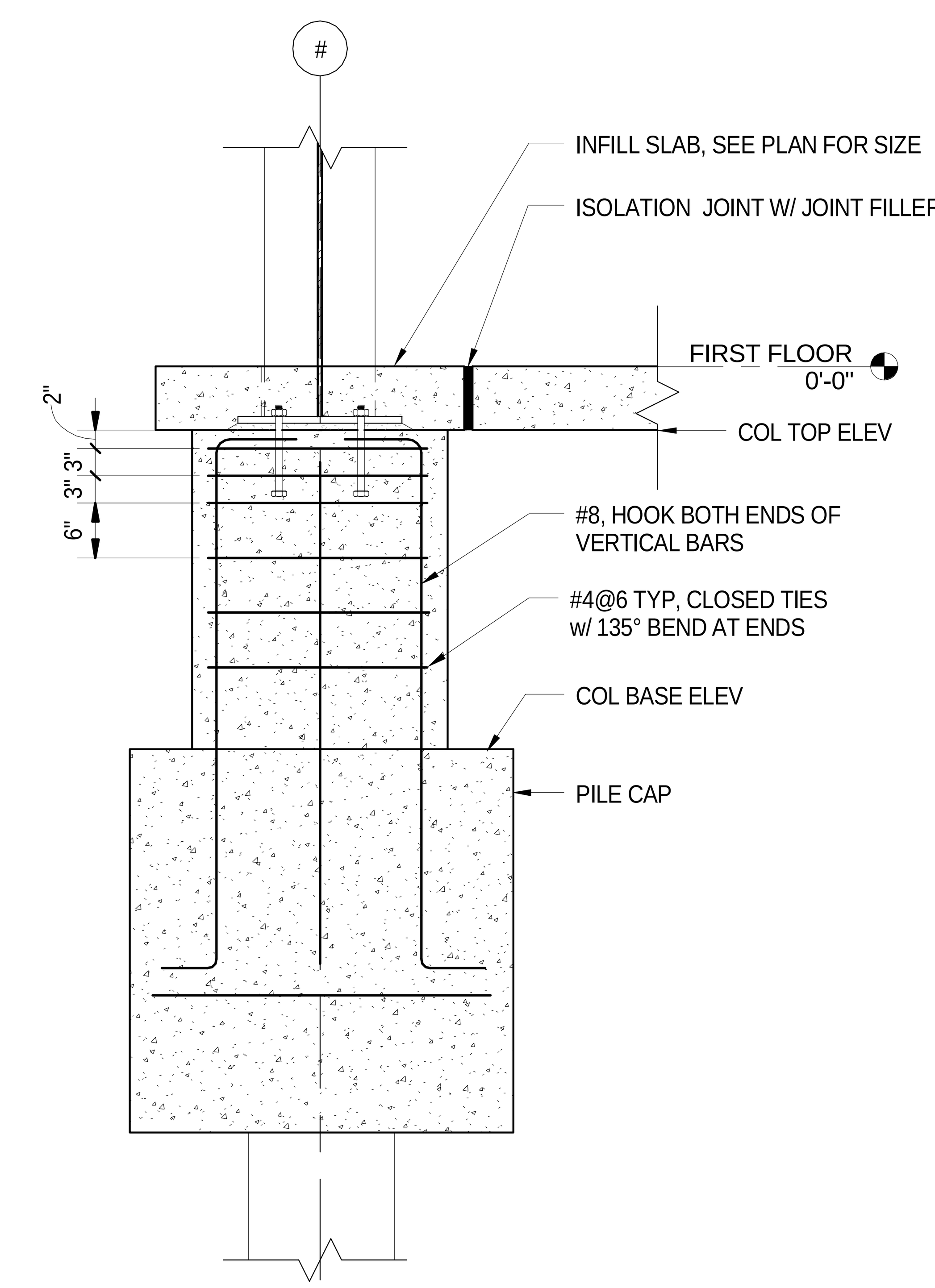
REINFORCING:	8#8	8#8	8#8	8#8	8#8	8#8	6#6	6#6	8#8	8#8	8#8	8#8	
FIRST FLOOR 0'-0" (top)	-0'-7"	-0'-11 1/2"	-0'-10 1/2"	-0'-9"	-0'-7 1/2"	-1'-0"	-0'-7"	-1'-0"	-0'-7"	-0'-7"	-0'-10 1/2"	-0'-9 1/2"	FIRST FLOOR 0'-0"
Column size	C28x28	C24x24	C28x28	C28x28	C28x28	C24x24	C28x28	C12x24	C24x24	C28x28	C24x24	C24x24	
Bottom	-5'-0"	-5'-0"	-5'-0"	-5'-0"	-5'-0"	-5'-0"	-3'-0"	-5'-0"	-5'-0"	-3'-6"	-5'-0"	-5'-0"	
Column Locations	A-1.5, A-2, A-2.5, A-3, A.4-1.5, A.4-2, A.4-2.5, A.5-3, A.5-3.5	A.4-0.1(1'-2") CENTERED ON GRID	A.4-0.3, B-0.3	A.4-0.5, B-0.5	A.4-1	B-4.5(1'-9 3/8"), C-4.5(1'-9 3/8"), D-4.5(1'-9 3/8"), E-4.5(1'-9 3/8"), G-4.5(1'-9 3/8"), H-4.5(1'-9 3/8"), I-4.5(1'-9 3/8"), J-4.5(1'-9 3/8")	C-1, D-1, E-1, F-1, G-1, I-1, J-1, J-2, K-2, K-2.5, K-3	F(0'-6 1/4")-4.5(1'-9 3/8"), F(-0'-6 1/4")-4.5(1'-9 3/8")	F.2-0.6, G-0.6	H-1	.5A-1 CENTERED ON GRID	.5A(-1'-2")-2	

NOTE: DIMENSIONS REFER TO OFFSET FROM GRIDLINES.

CONCRETE COLUMN SCHEDULE



1 COLUMN SECTIONS
3/4" = 1'-0"



2 TYP COL ELEV
NTS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/ BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL CONCRETE COLUMN SCHEDULE

PROJECT NO: 301-0124
DRAWING NO: S14-203
SHEET NO: 09.18

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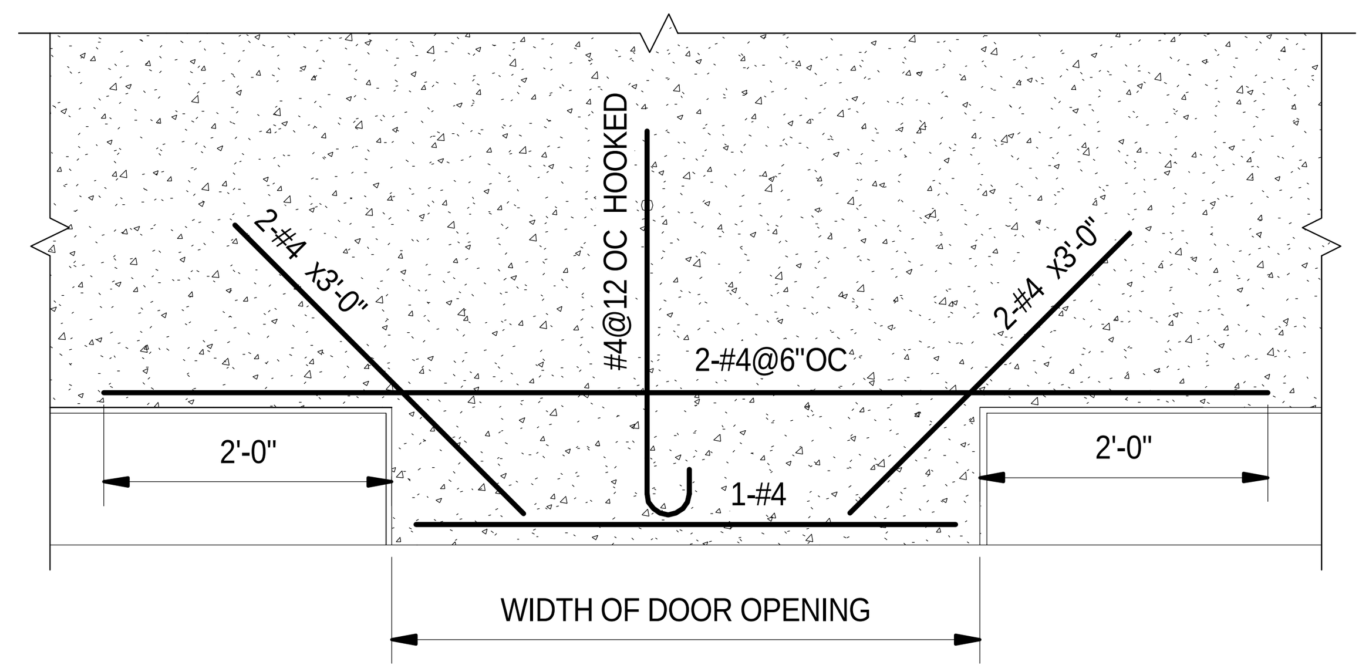
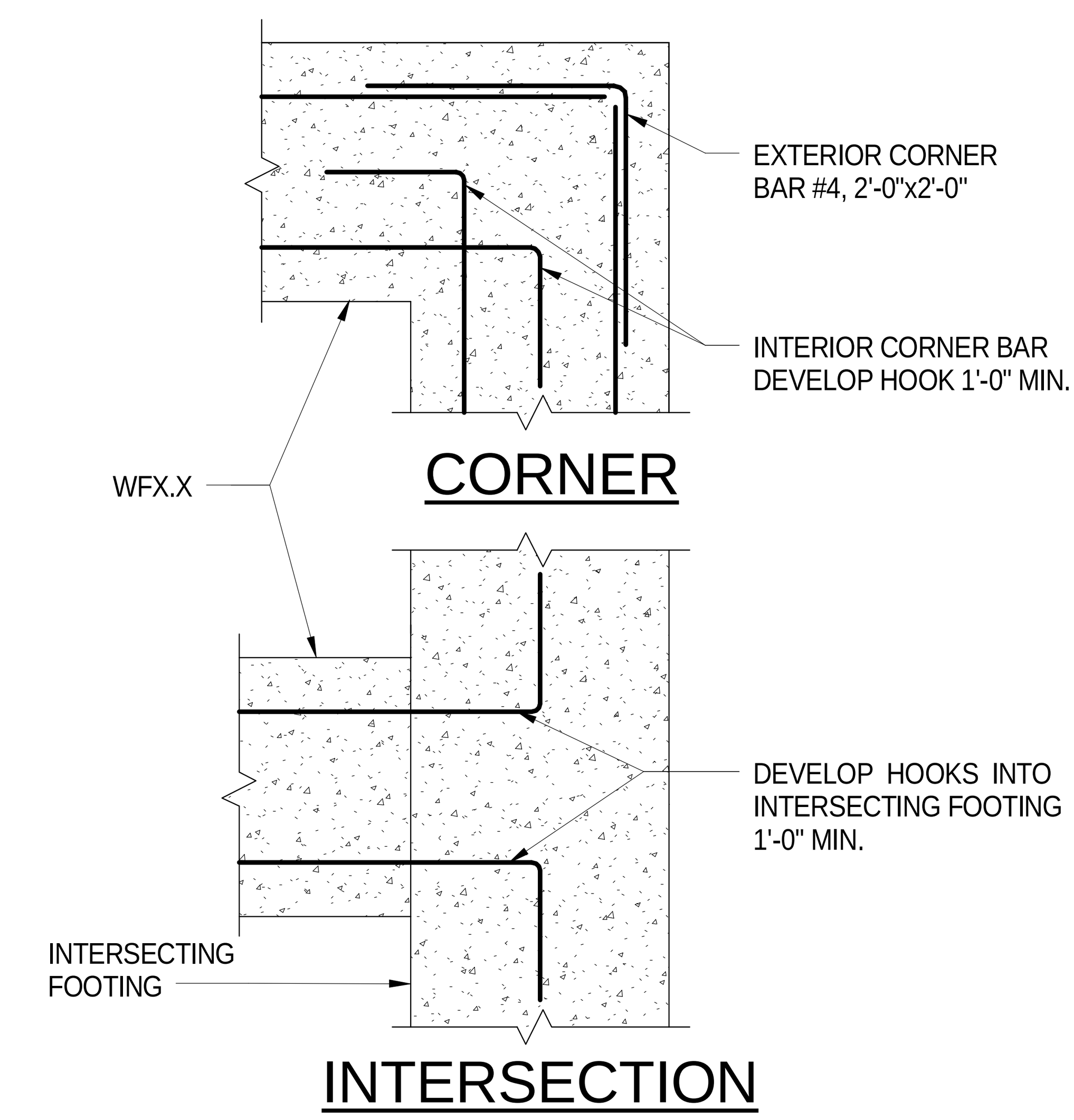
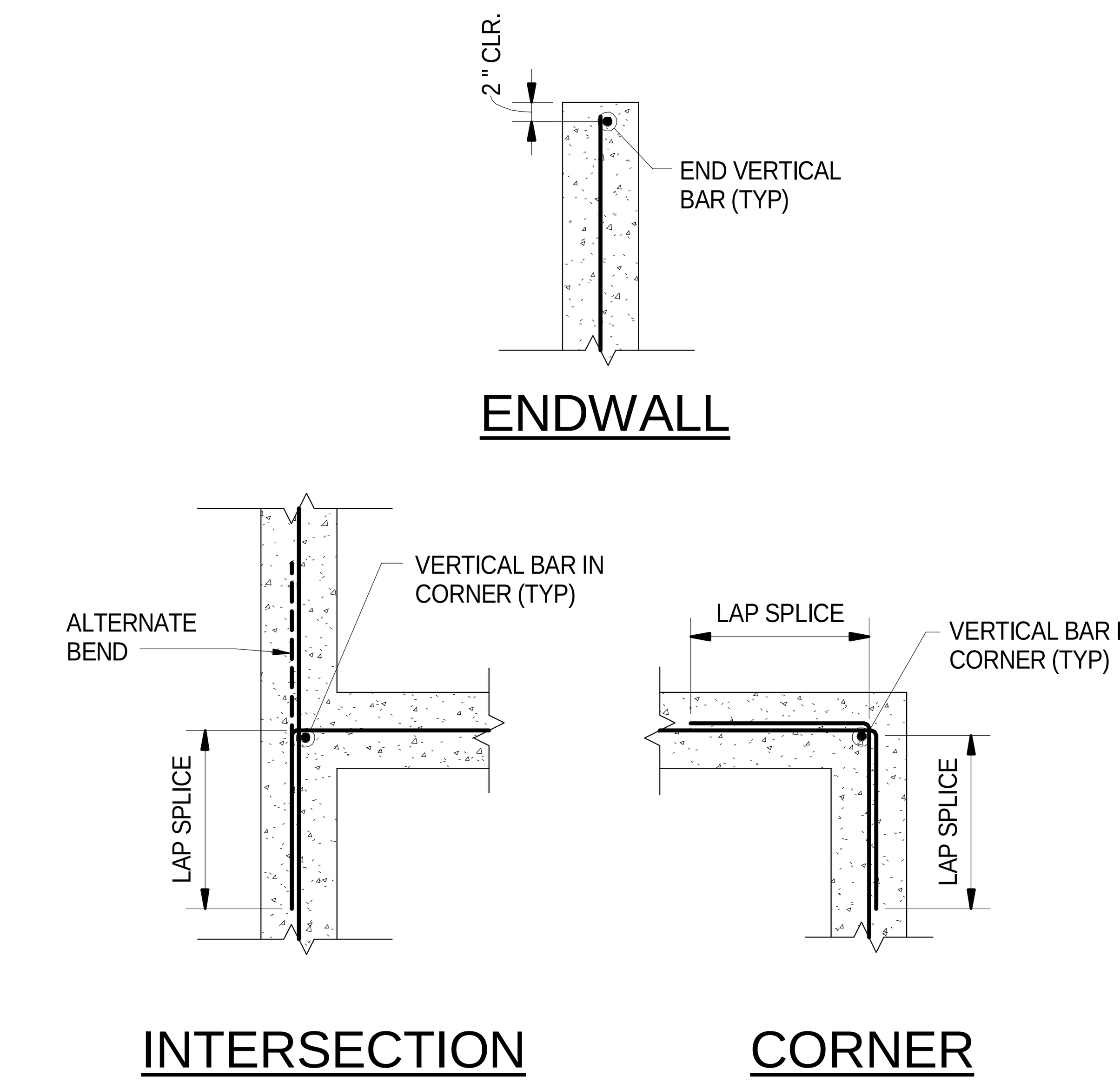


NOTES:
1. REINFORCING STEEL SHOWN IS IN ADDITION TO TYPICAL SLAB REINFORCING STEEL.

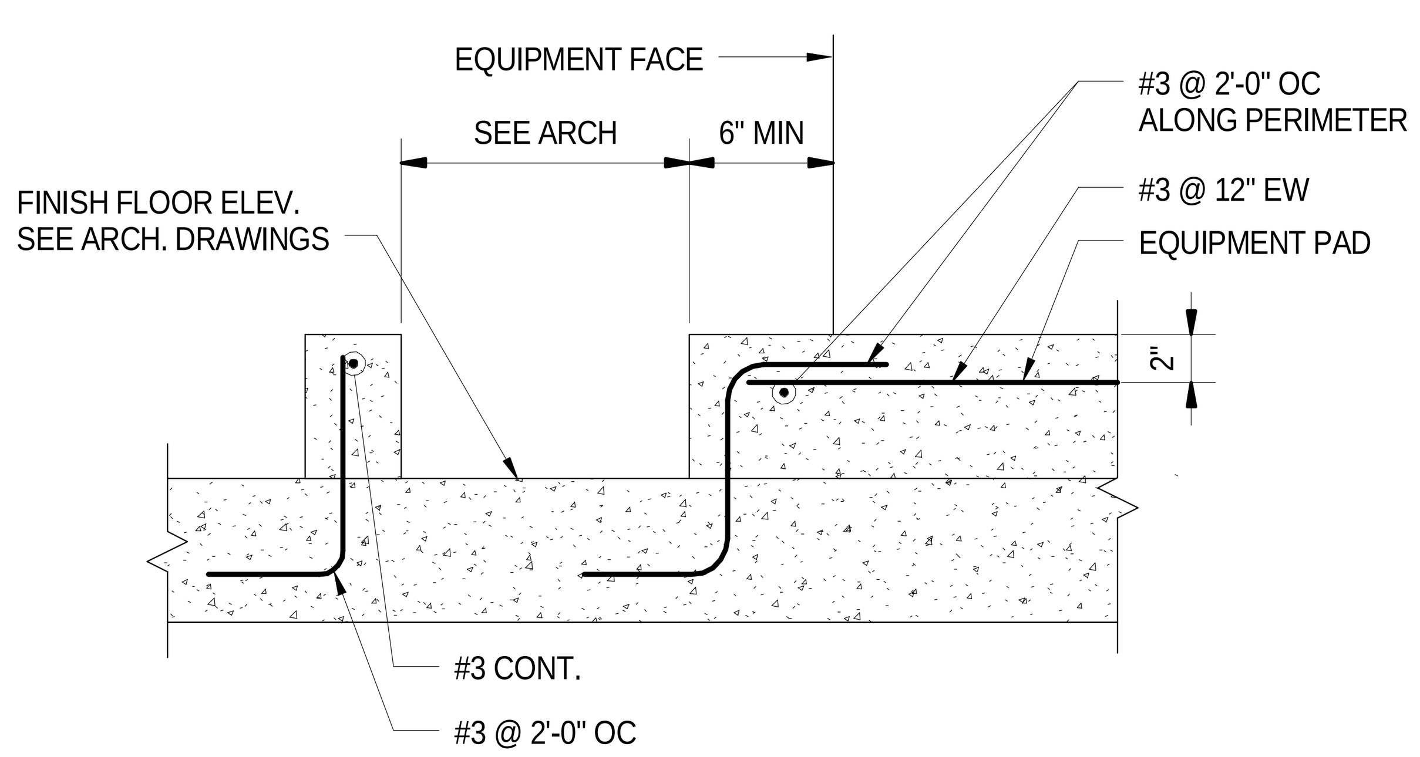
1 SLAB REINFORCING AT DOOR WAY
NTS



2 TYPICAL REINFORCING AT FOOTING INTERSECTIONS
NTS

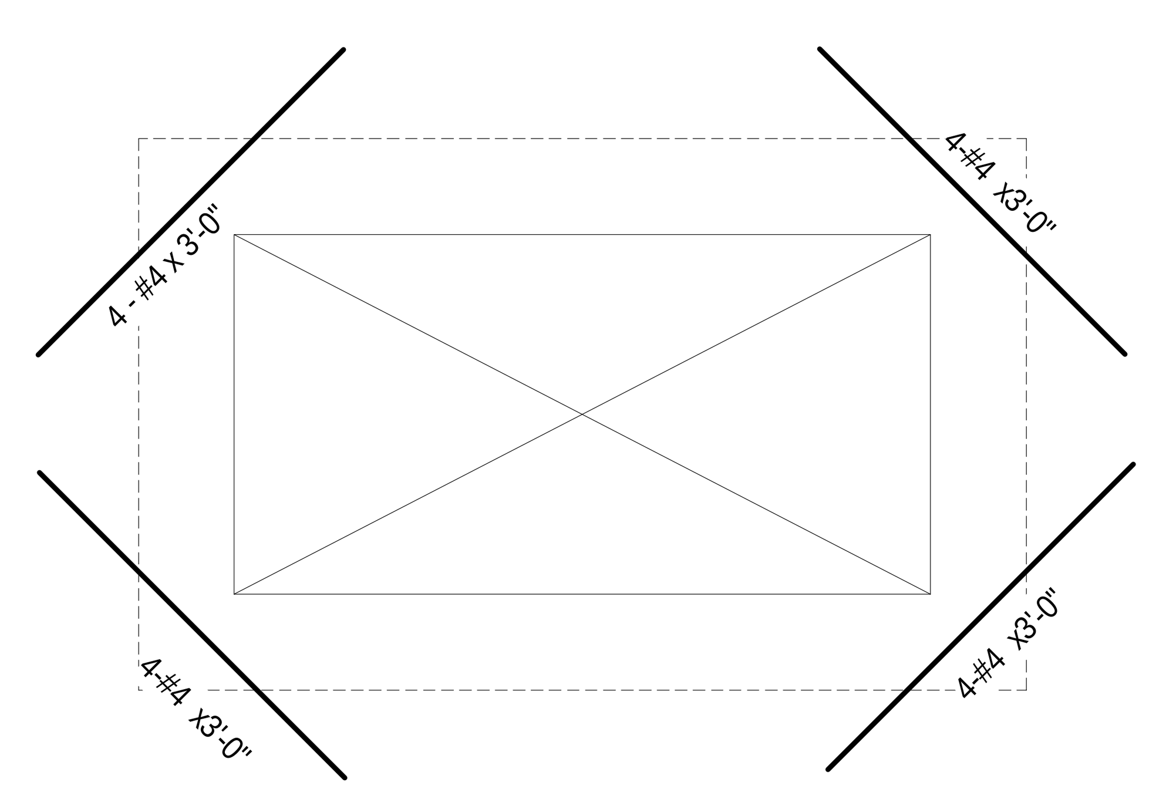


3 TYPICAL REINFORCING SPLICE IN CONCRETE WALL
NTS

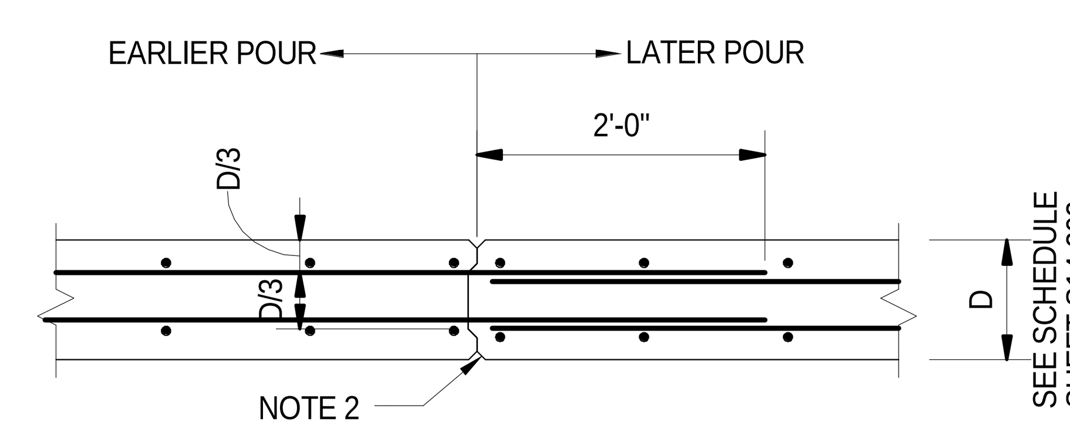


NOTES:
1. AT CONTRACTOR'S OPTION, DOWELS MAY BE INSTALLED BY DRILLING AND GROUTING AFTER SLAB IS PLACED.

4 EQUIPMENT PAD DETAIL
NTS

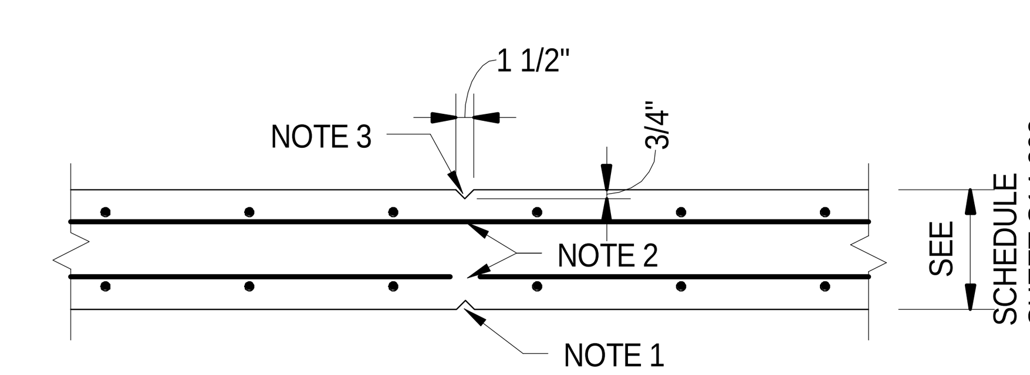


5 SLAB REINFORCING AROUND OPENING
NTS



NOTES:
1. CONSTRUCTION JOINT SHALL COINCIDE WITH CONTRACTION JOINT LOCATION AND ARCHITECTURAL PATTERN IF APPLICABLE.
2. NEGLECT NOTCH IN FLOOR SLAB CONSTRUCTION JOINTS.

6 CONCRETE WALL CONSTRUCTION JOINT
NTS



NOTES:
1. PREFORMED V JOINT SHALL BE PROVIDED TO BOTH SIDES OF WALL, ALIGNED WITH EACH OTHER. WHERE ONE SIDE OF WALL HAS ARCHITECTURAL PATTERN, THE CONTRACTION JOINT SHALL BE ADJUSTED TO COINCIDE WITH THE VERTICAL LINE OF THIS PATTERN.
2. BEHIND THE V JOINT CUT OFF THE ALTERNATE HORIZONTAL REINFORCING ALONG EACH FACE OF REBAR MAT. REBAR CUT OFF SHALL ONLY OCCUR AT CONTRACTION JOINT LOCATION SHOWN IN PLAN.
3. NEGLECT NOTCH IN FLOOR SLAB CONTRACTION JOINTS.

7 CONCRETE WALL CONTRACTION JOINT
NTS

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S. CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

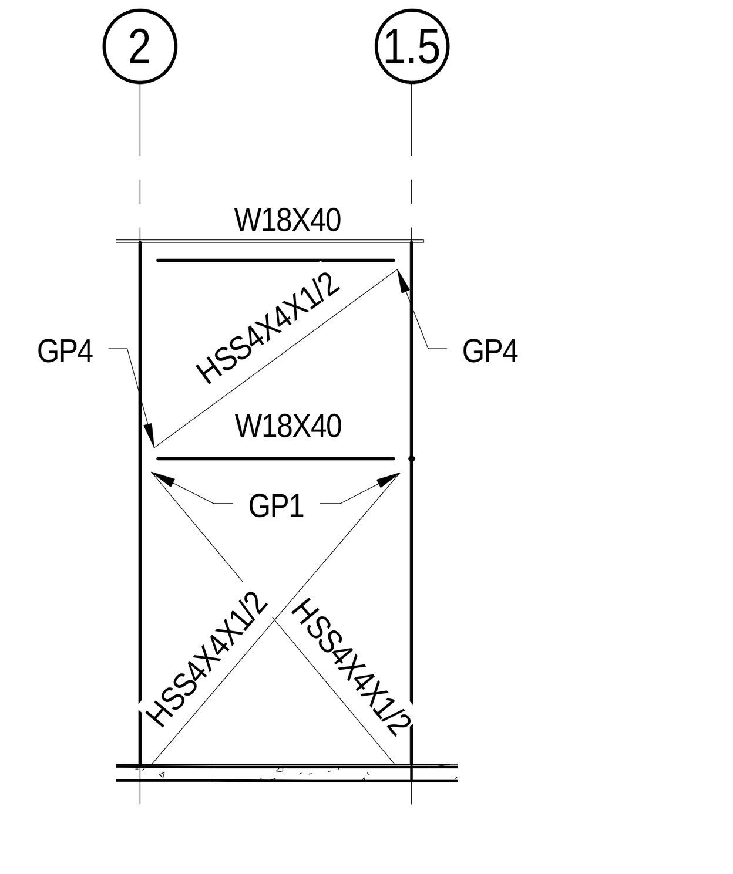
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL TYPICAL CONCRETE DETAILS

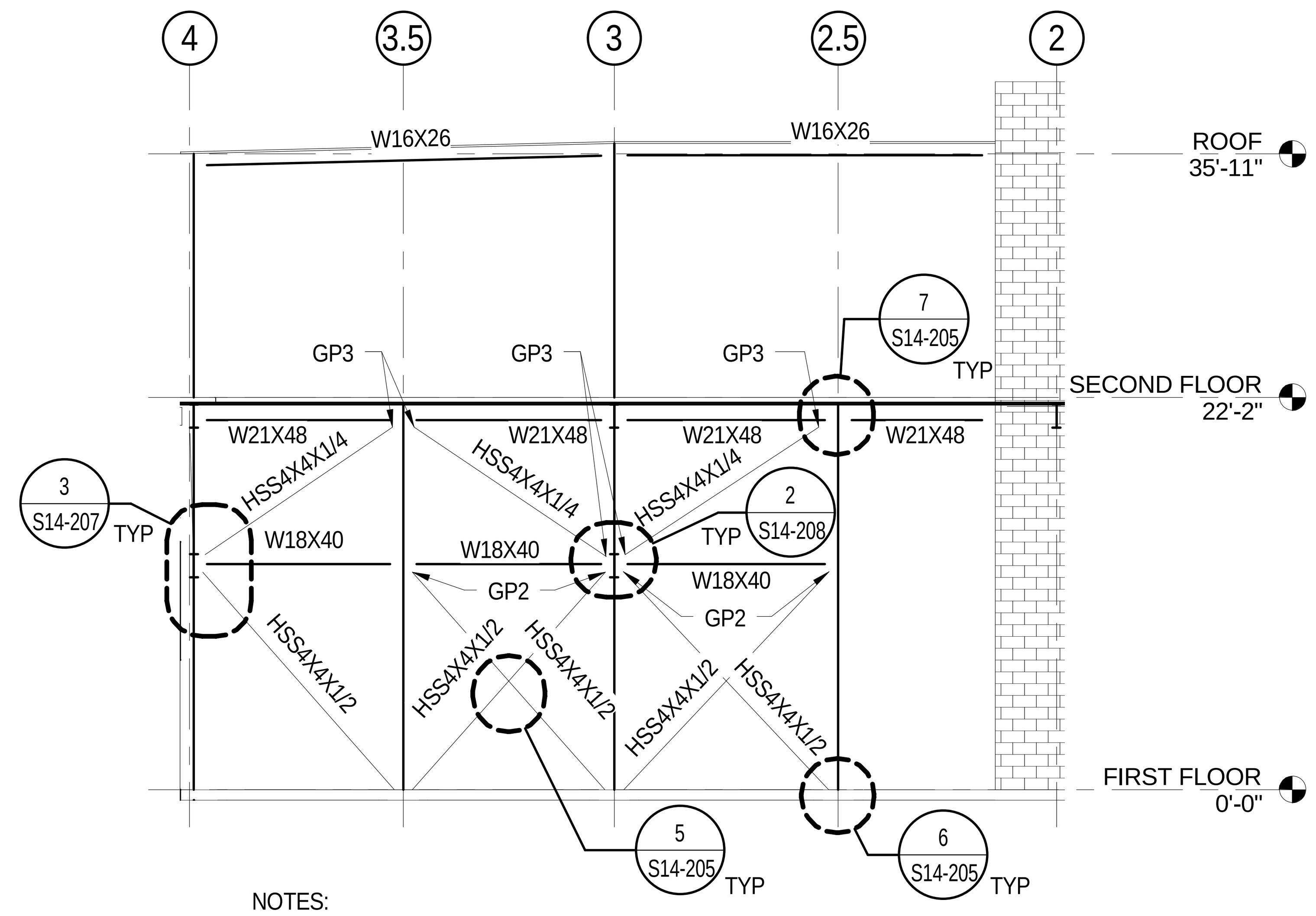
PROJECT NO: 301-0124
DRAWING NO: S14-204
SHEET NO: 09.19



NOTES:
1. SEE TYPICAL DETAIL CALLOUTS ON ELEVATION 2.

1 S14-107 ELEVATION - GRID A

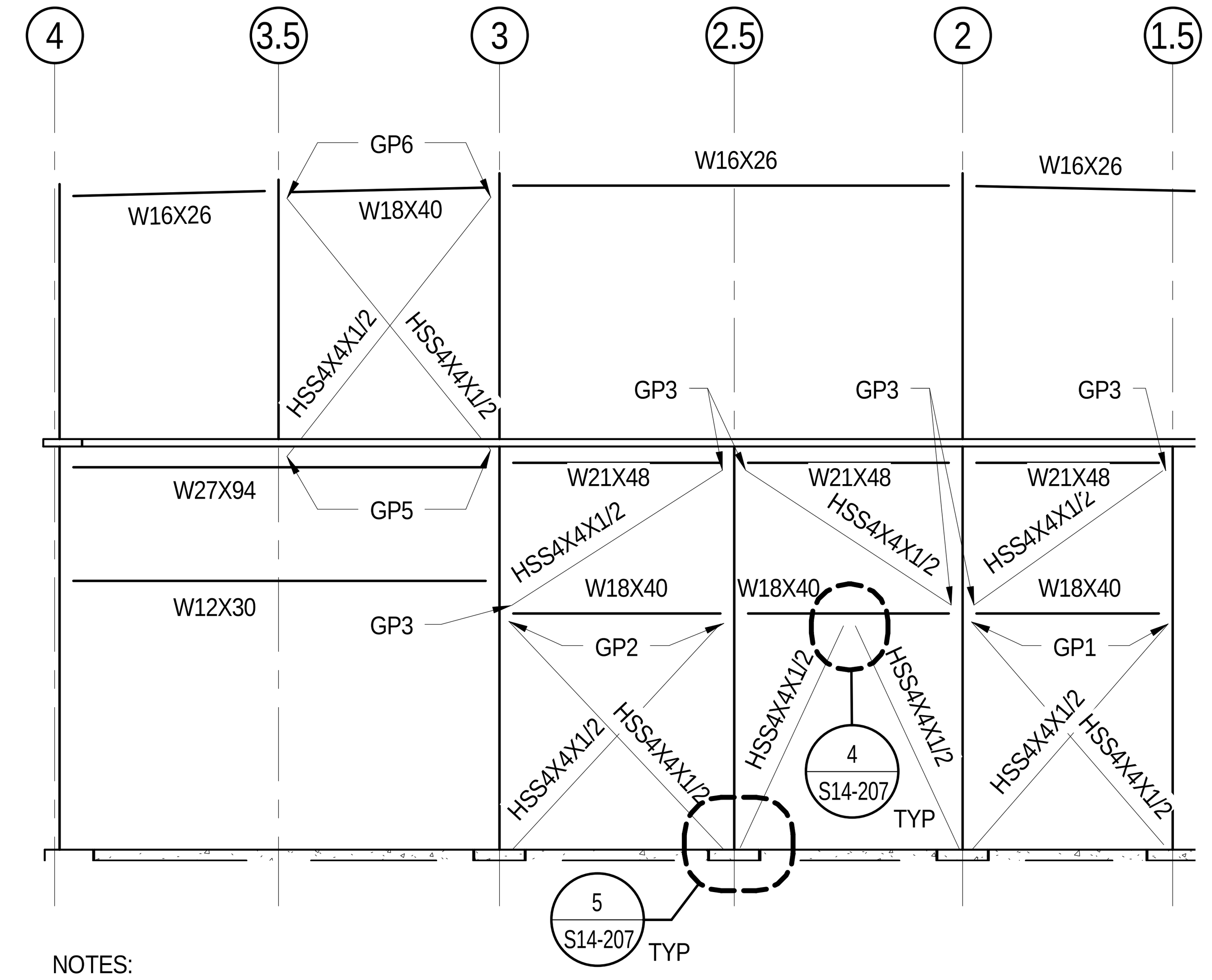
SCALE: 1/8" = 1'-0"



NOTES:
1. DETAIL CALLOUTS ARE TYPICAL FOR ALL ELEVATIONS ON THIS SHEET UNO.

2 S14-107 ELEVATION - GRID B

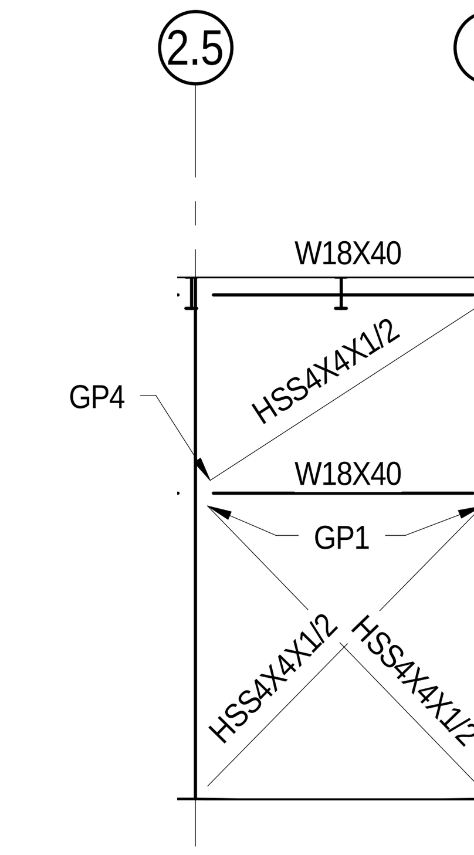
SCALE: 1/8" = 1'-0"



NOTES:
1. SEE TYPICAL DETAIL CALLOUTS ON ELEVATION 2.

3 S14-108 ELEVATION - GRID I

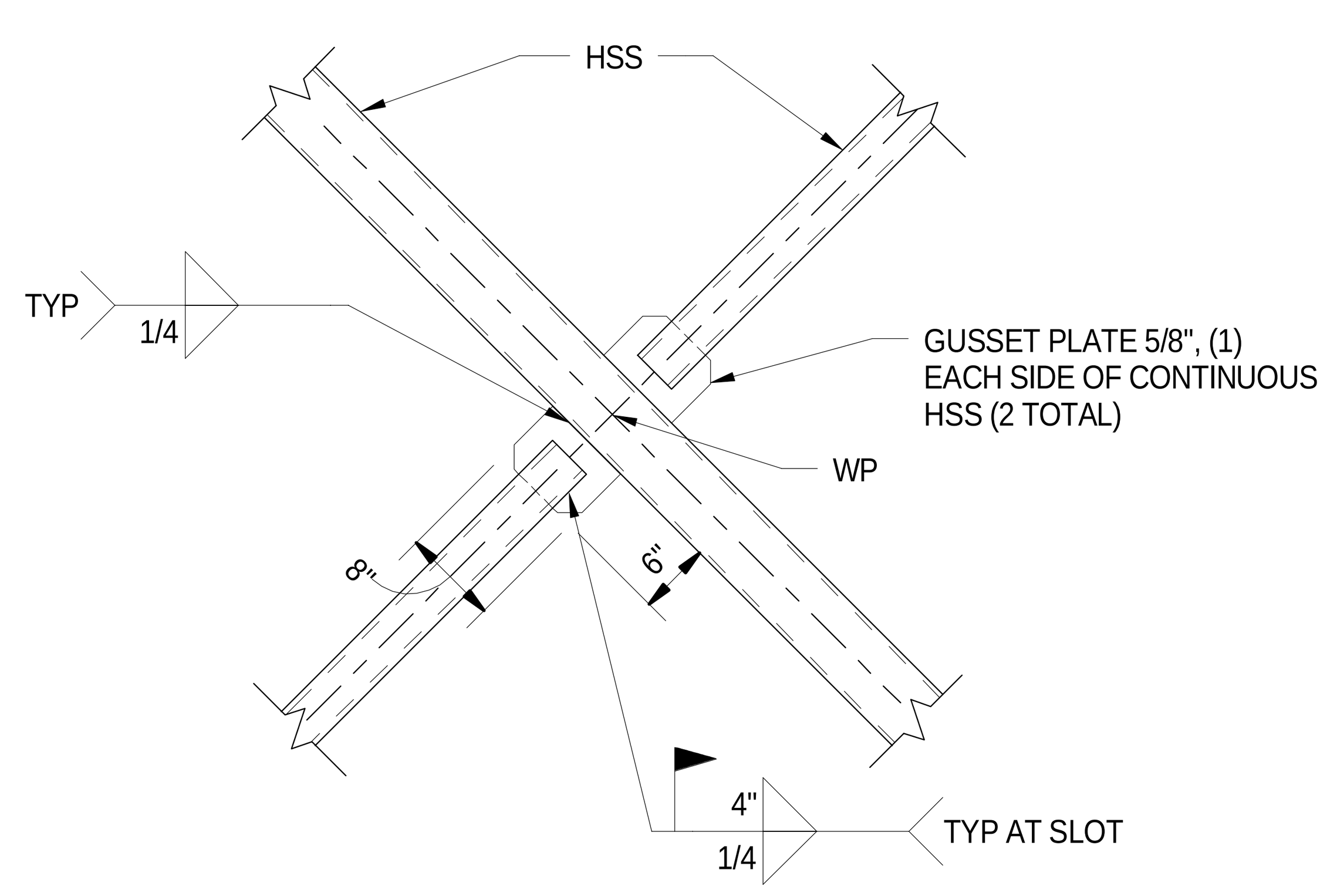
SCALE: 1/8" = 1'-0"



NOTES:
1. SEE TYPICAL DETAIL CALLOUTS ON ELEVATION 2.

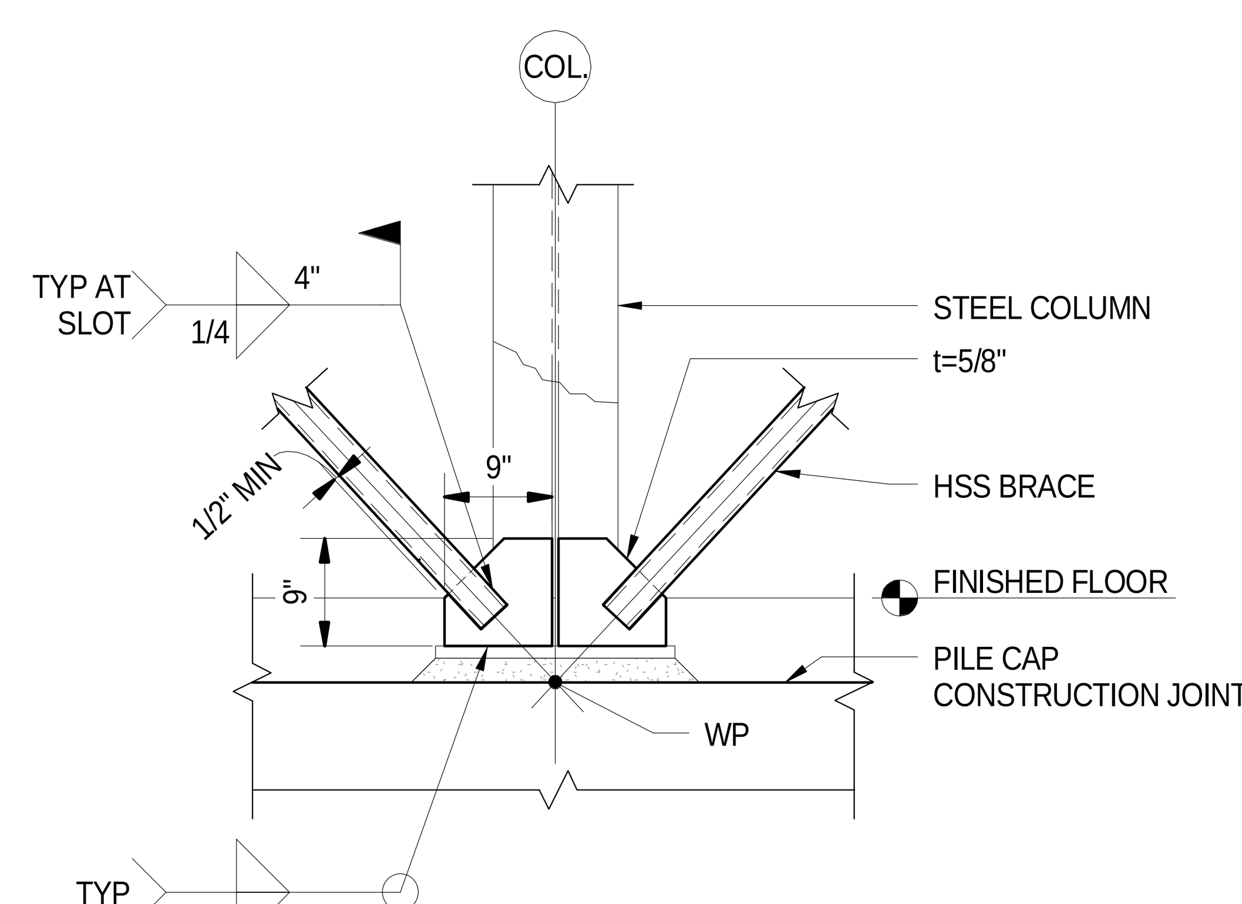
4 S14-108 ELEVATION - GRID K

SCALE: 1/8" = 1'-0"



5 S14-205 TYP TUBE INTERSECTION DETAIL

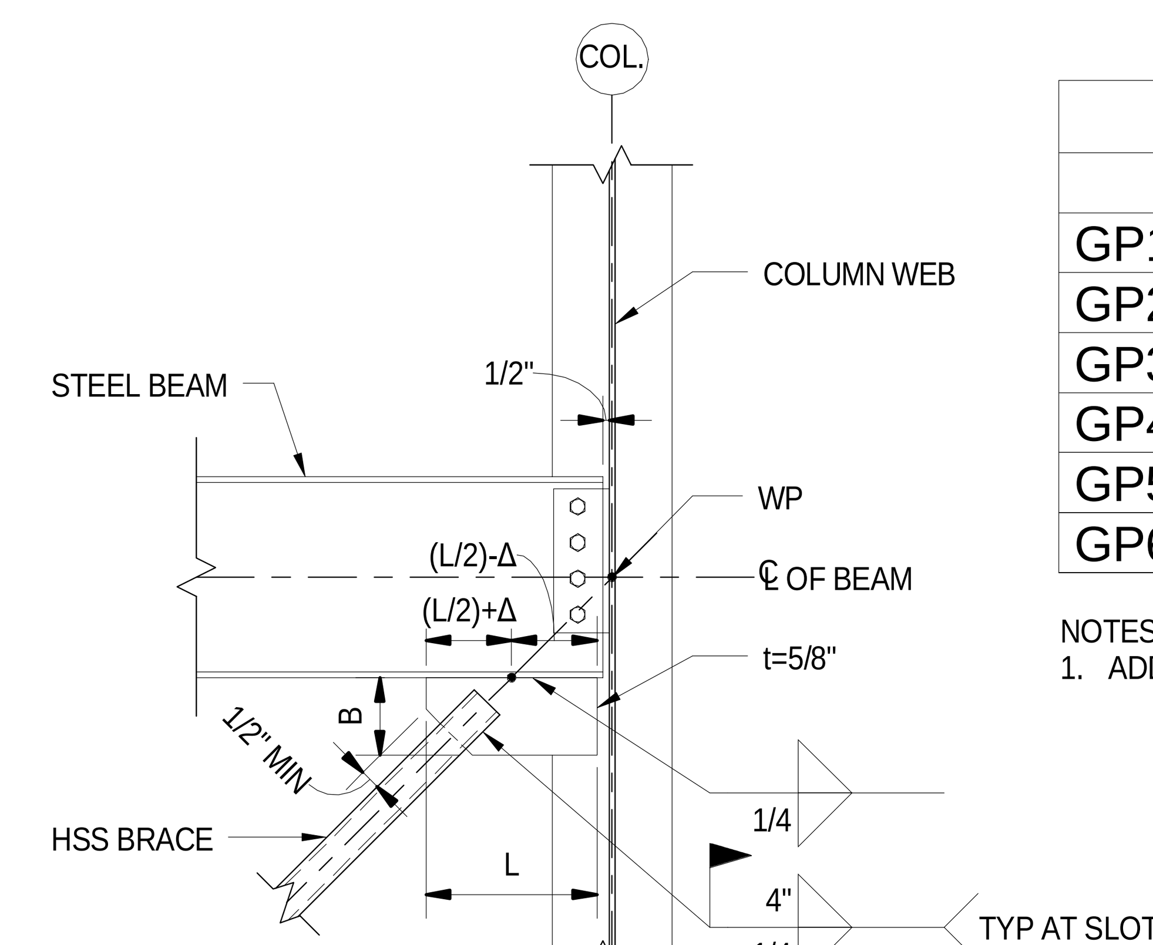
SCALE: 3/4" = 1'-0"



NOTES:
1. CONCRETE SLAB, ISOLATION PEDESTAL, ANCHOR RODS, ETC. ARE NOT SHOWN FOR CLARITY. REFER TO OTHER DETAILS FOR INFORMATION.

6 S14-205 TYP TUBE BRACE BASE CONNECTION

SCALE: 3/4" = 1'-0"



7 S14-205 TYP BRACE CONNECTION TO BEAM

SCALE: 3/4" = 1'-0"

GUSSET PLATE TABLE				
	B (in)	L (in)	Δ (in)	REMARKS
GP1	7	13	0	
GP2	8	14	0	
GP3	10	24	0	
GP4	8.5	20	0	
GP5	10	18	0	
GP6	8	12	1	MATCH ROOF SLOPE

NOTES:
1. ADDITIONAL BRACED FRAME CONNECTION DETAILS SEEN ON S14-207.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK:
STATE OF CONNECTICUT
WEIYING S. CHIANG
No. 29848
LICENSED
PROFESSIONAL ENGINEER

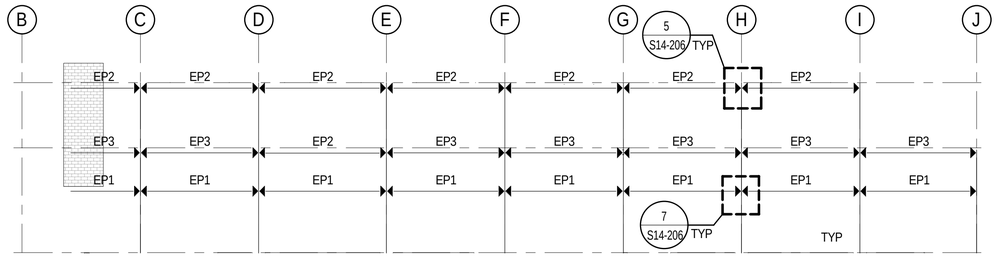
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

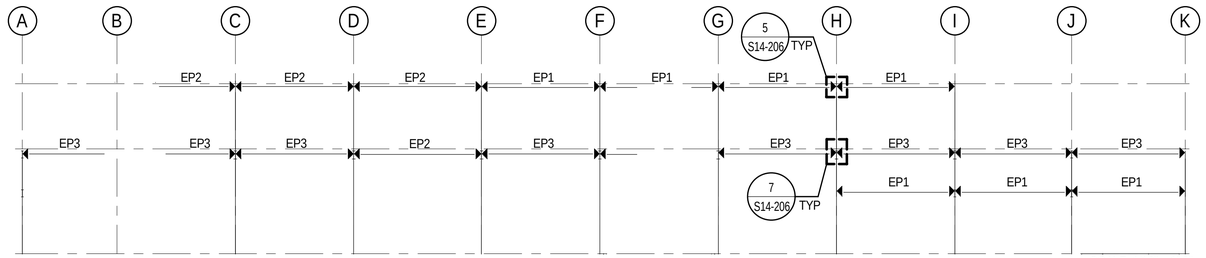
DRAWING TITLE: STRUCTURAL BRACED FRAME ELEVATIONS AND DETAILS

PROJECT NO: 301-0124
DRAWING NO: S14-205
SHEET NO: 09.20



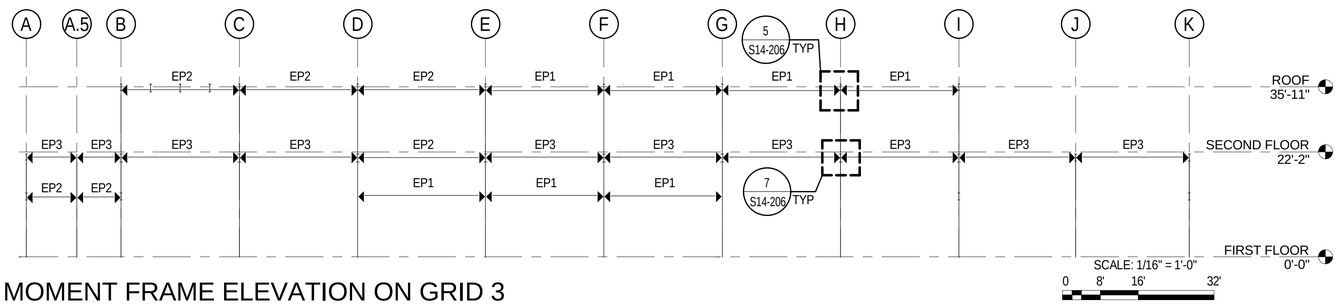
1 S14-107 MOMENT FRAME ELEVATION ON GRID 1

SCALE: 1/16" = 1'-0"
0 8' 16' 32'



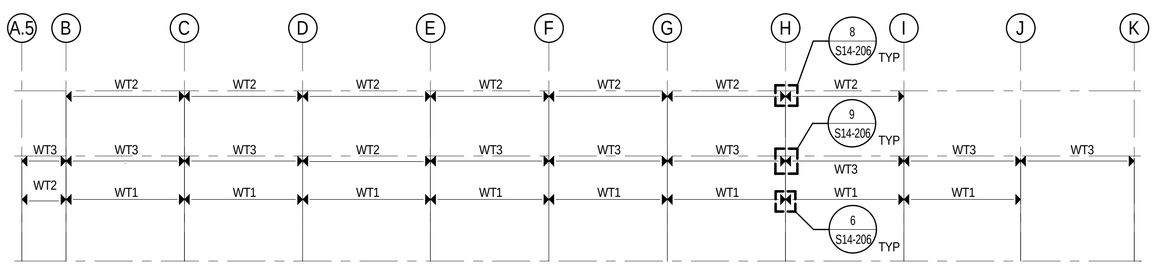
2 S14-107 MOMENT FRAME ELEVATION ON GRID 2

SCALE: 1/16" = 1'-0"
0 8' 16' 32'



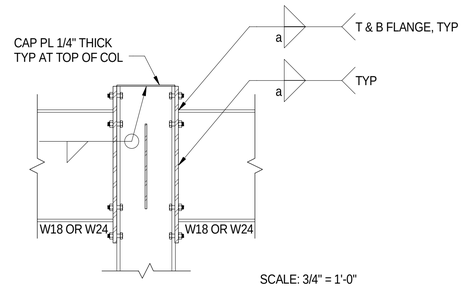
SCALE: 1/16" = 1'-0"
0 8' 16' 32'

3 S14-107 MOMENT FRAME ELEVATION ON GRID 3



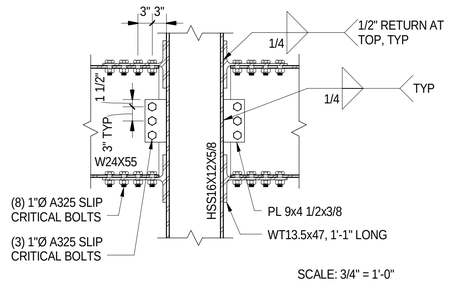
SCALE: 1/16" = 1'-0"
0 8' 16' 32'

4 S14-107 MOMENT FRAME ELEVATION ON GRID 4



SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

5 S14-206 DETAIL



SCALE: 3/4" = 1'-0"
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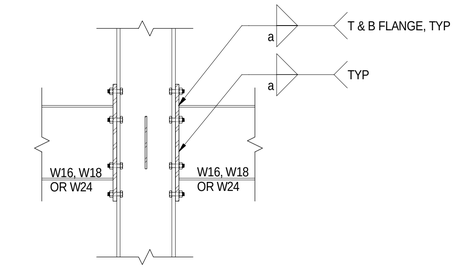
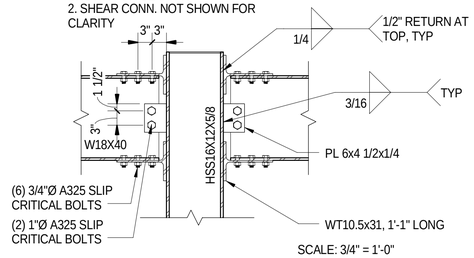
6 S14-206 WT1



SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

7 S14-206 DETAIL

NOTES:
1. JOIST AND ROOF DECK NOT SHOWN FOR CLARITY.
2. SHEAR CONN. NOT SHOWN FOR CLARITY



SCALE: 3/4" = 1'-0"
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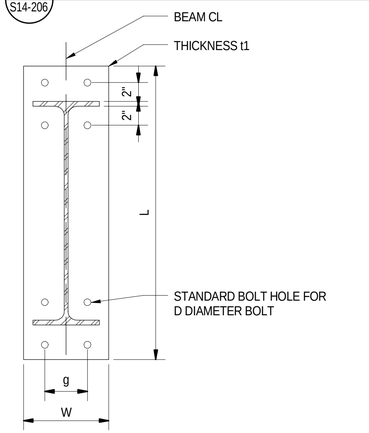
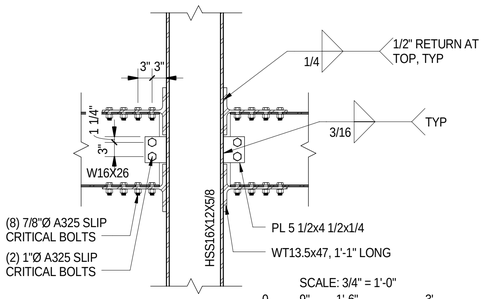
8 S14-206 WT2





SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

9 S14-206 WT3

END PLATE SCHEDULE							
TYPE	L (in)	W (in)	t1 (in)	D (in)	g (in)	a (in)	REMARKS
EP1	32	8	1 1/8	1	4	5/16	W24x55; SLIP CRITICAL BOLTS
EP2	25	7	1	3/4	3 1/2	5/16	W18x40; SLIP CRITICAL BOLTS
EP3	23	6	1	3/4	3 1/2	1/4	W16x26; SLIP CRITICAL BOLTS

10 TYPICAL STEEL END DETAIL
NTS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT, STEVEN W. CHASE, NO. 29648, REGISTERED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL MOMENT FRAME ELEVATIONS

PROJECT NO: 301-0124
DRAWING NO: S14-206
SHEET NO: 09.21

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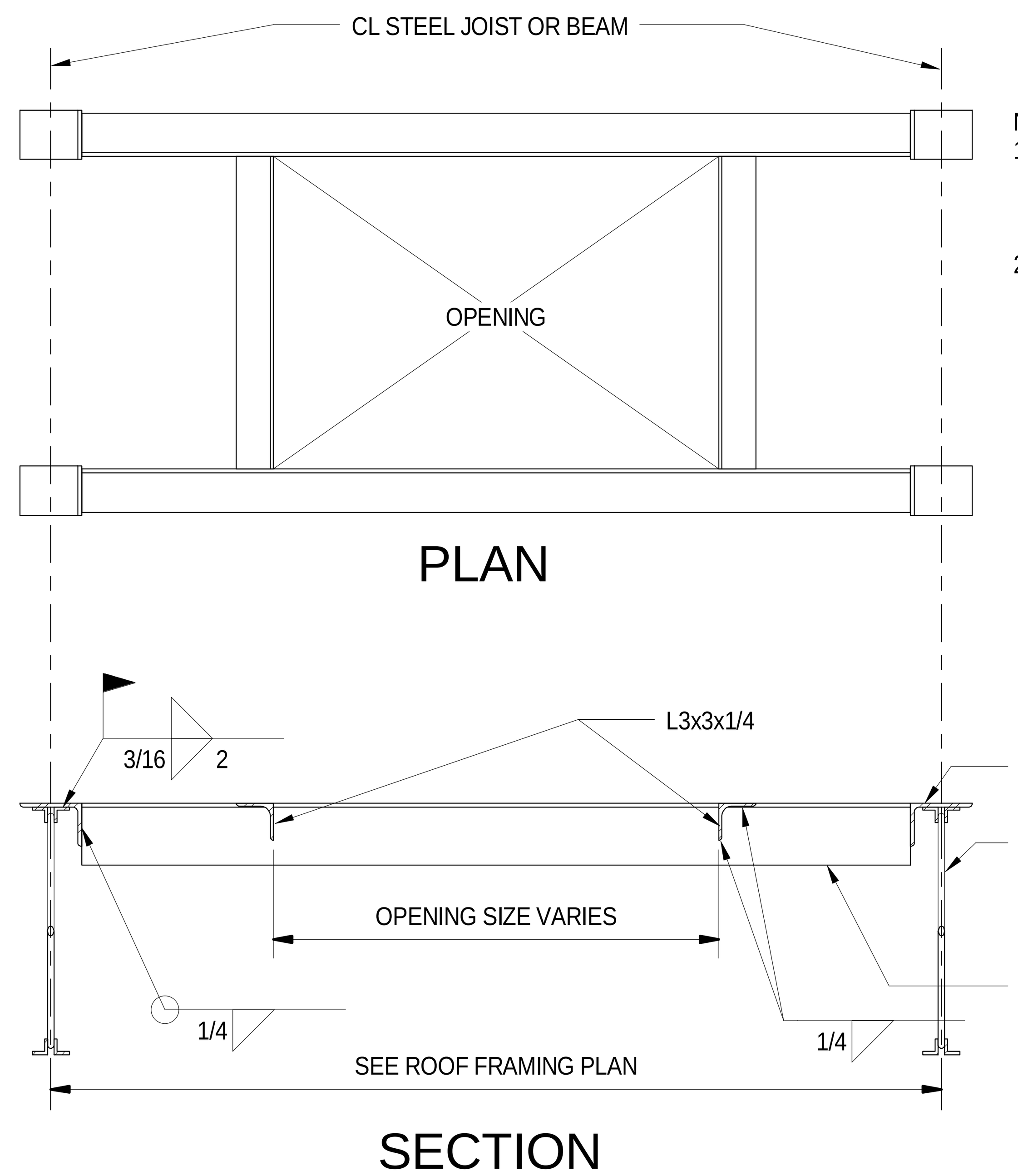


NOTES:
1. SEE ARCH ROOF PLANS AND MECH DWGS FOR SIZE AND LOCATION OF ROOF OPENINGS.
2. REFER TO STEEL JOISTS NOTE 9 ON S14-002 FOR ANGLES ON JOISTS NOT LOCATED AT PANEL POINTS.

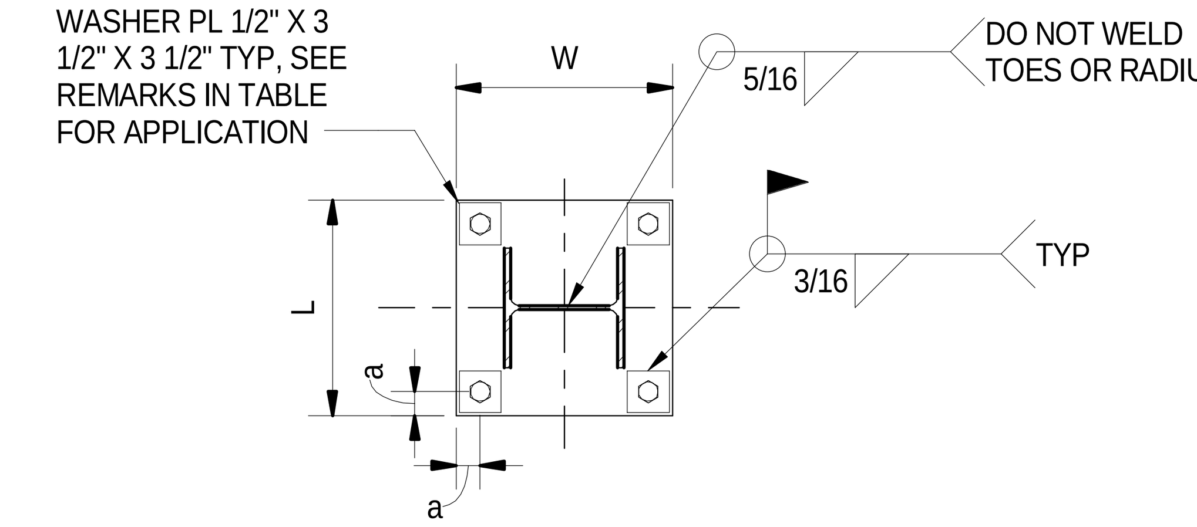
L3 1/2x3 1/2x1/4 FOR JOIST OR BEAM SPACED LESS THEN 5'-6" OR L6x4x3/8 FOR JOIST OR BEAM SPACED 5'-6" TO 8'-0"

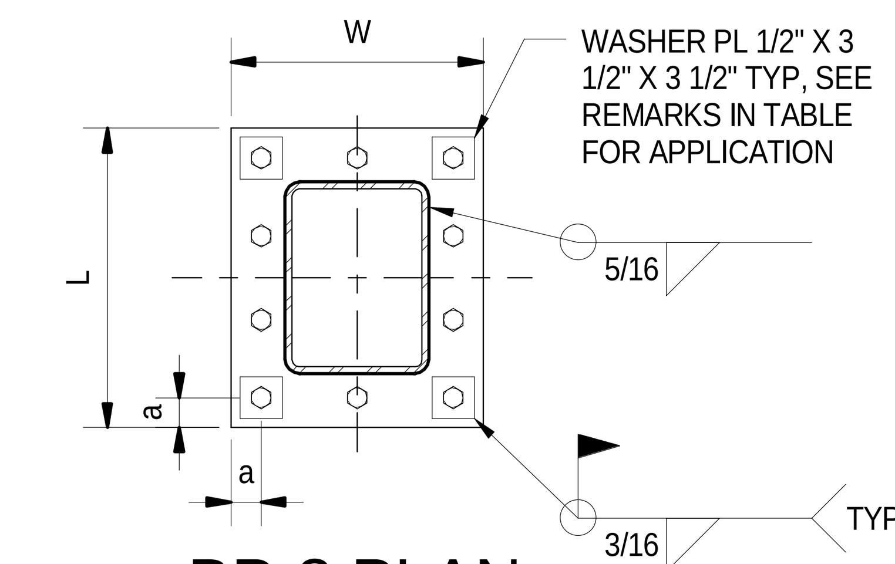
NOTES:
1. FOR GIRDERS WITH TOS LOWER THAN JOISTS, PROVIDE C5x6.7 SEAT.

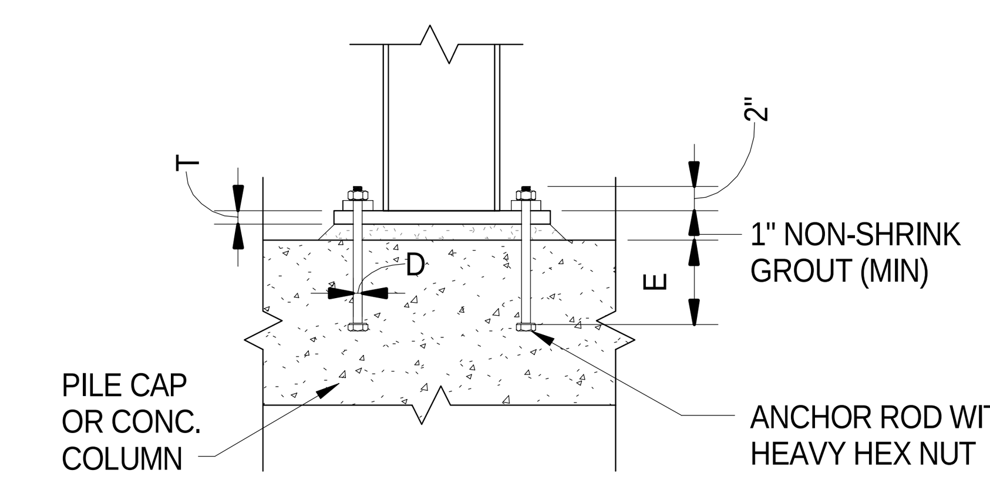
1 FRAMING FOR OPENING BETWEEN JOISTS/BEAMS
NTS

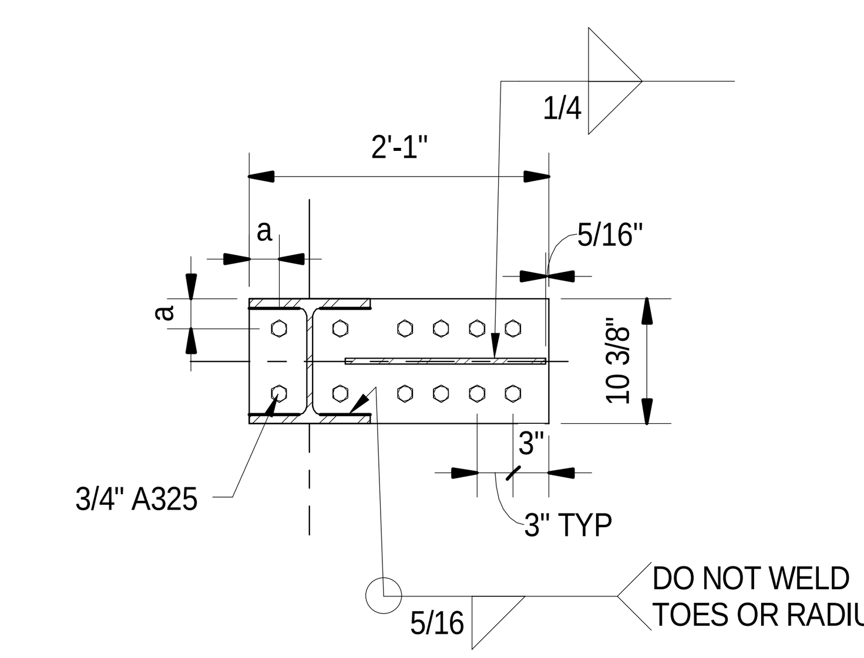
BASE PLATE AND ANCHOR BOLT SCHEDULE								
TYPE	L (in)	W (in)	T (in)	# of AB	D (in)	E (in)	a (in)	REMARKS
BP-1	19	19	1 1/8	4	1	8	2 1/2	W10x68
BP-2	21	19	1 1/8	4	1	8	2 1/2	W12x79
BP-3	25	21	1 1/8	10	1	8	2 1/2	HSS16x12x5/8 AT CANOPY, WASHER AT CORNERS ONLY
BP-4	20	20	1 1/4	4	1 1/2	12	3	w/ GUSSET PL, WASHER, BF COL W10x68
BP-5	22	20	1 1/4	4	1 1/2	12	3	w/ GUSSET PL, WASHER, BF COL W12x79
BP-6	12	12	1	4	3/4	6	1 1/2	HSS6x6x1/4 AT ATRIUM
BP-7	25	10 3/8	1	12	3/4	-	2 1/2	A325 BOLTS SUPPORTED ON STEEL BEAM AT 2ND FL.
BP-8	10	10	1/2	-	-	-	-	SEE DETAIL 2 ON SHEET S14-306

NOTE:
SEE BASE PLATE ASSIGNMENT IN COLUMN SCHEDULE ON S14-209.

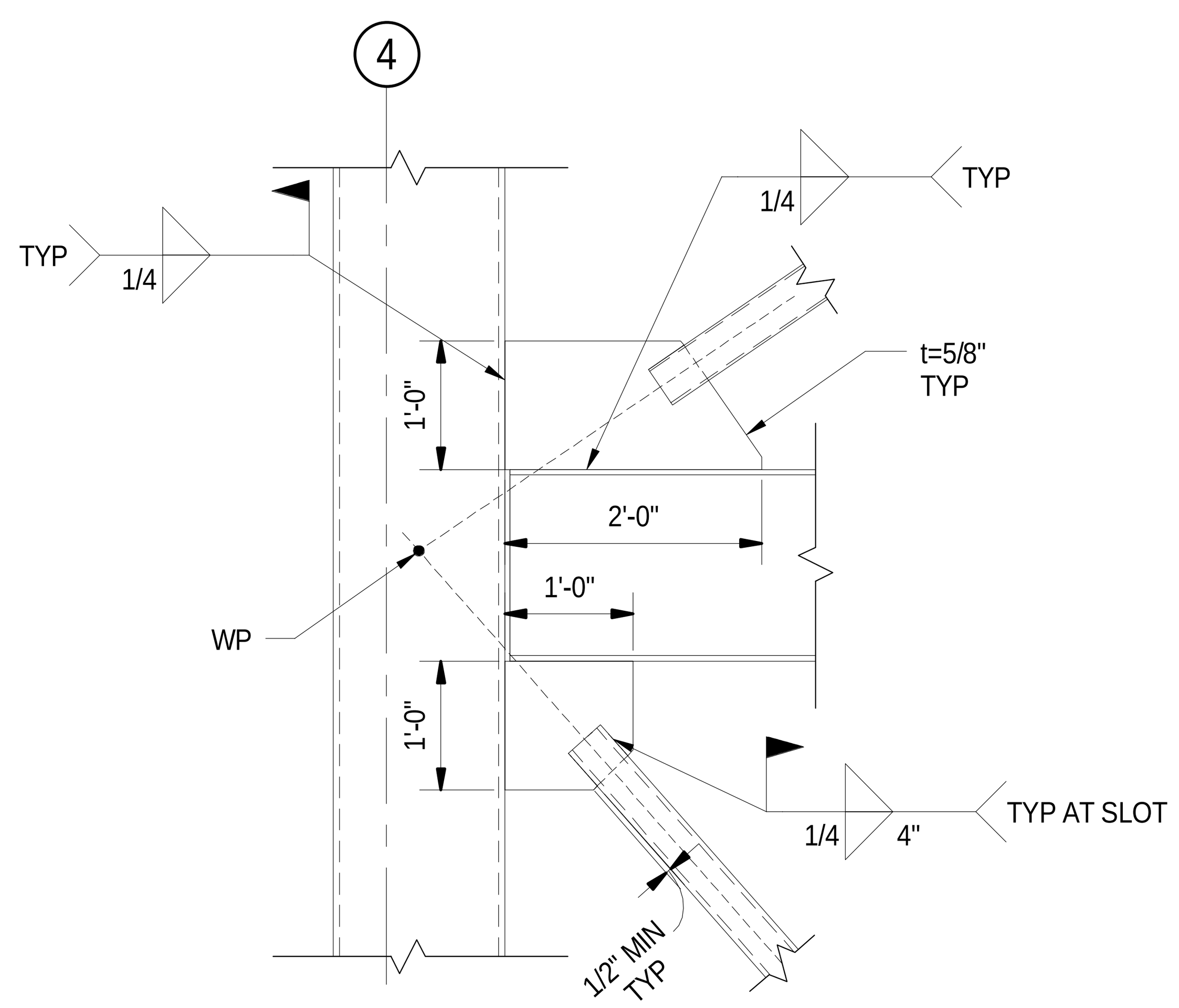






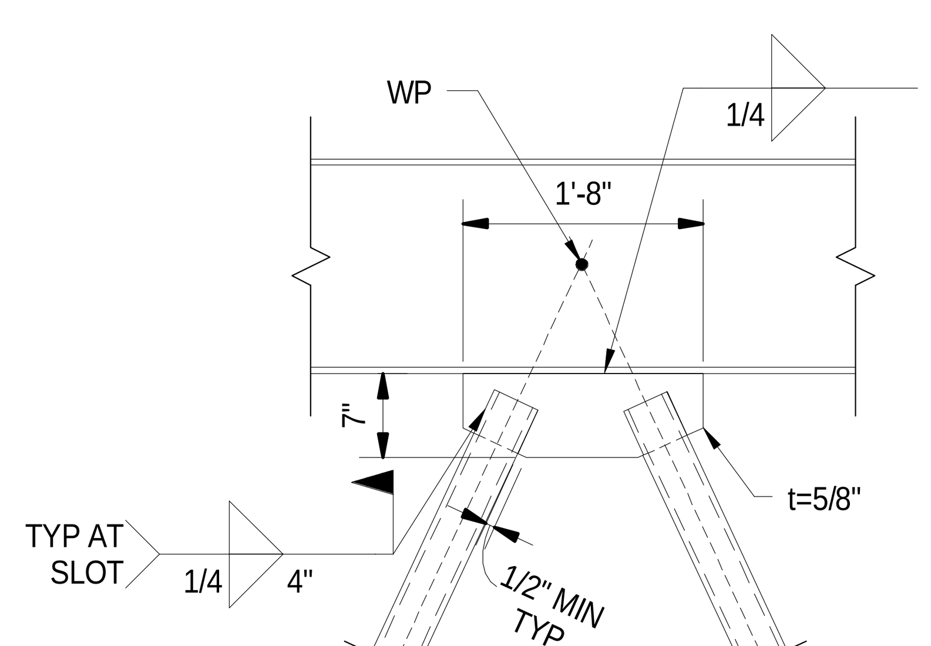


2 STEEL COLUMN BASE PLATE AND ANCHOR RODS
NTS

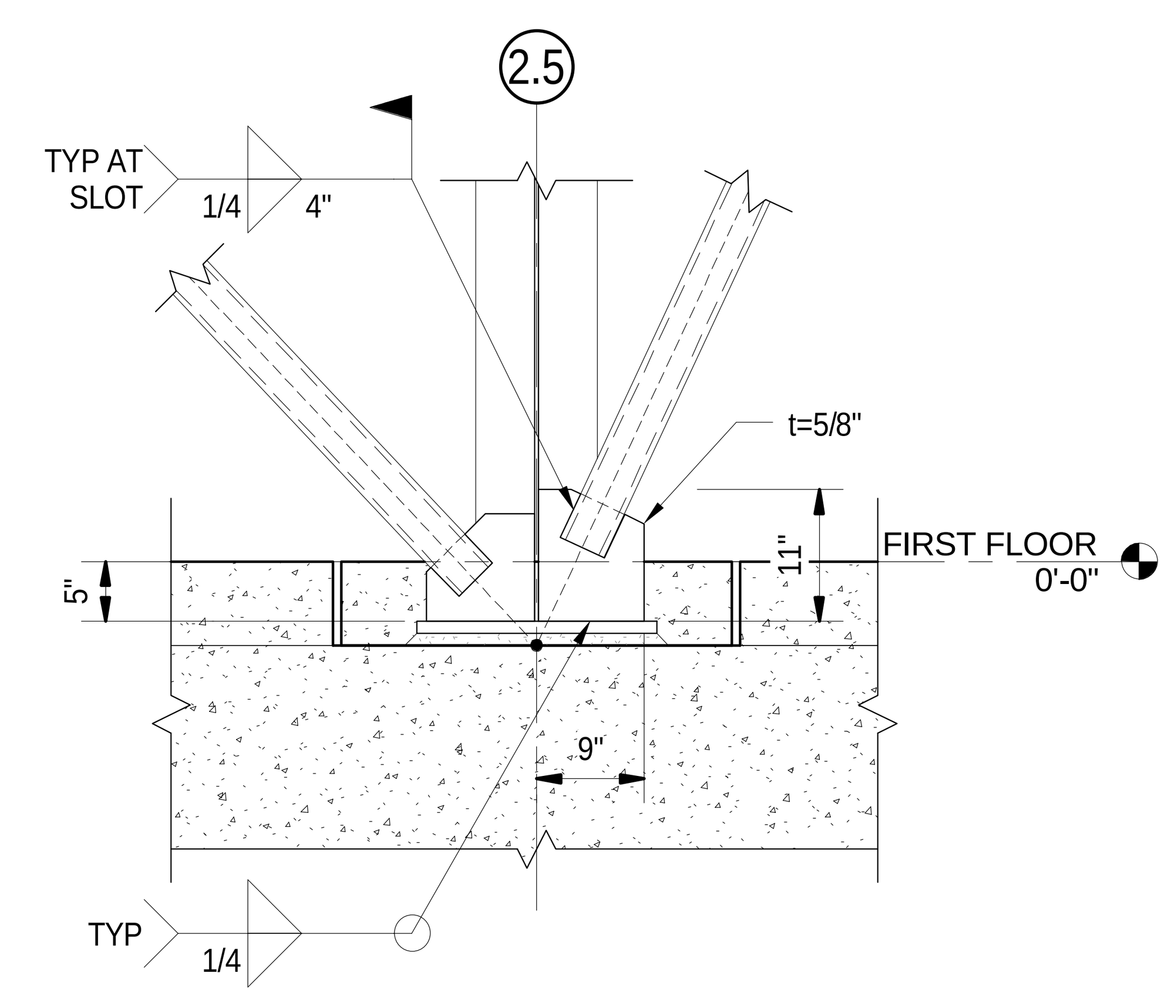


NOTES:
1. SHEAR CONNECTION NOT SHOWN FOR CLARITY

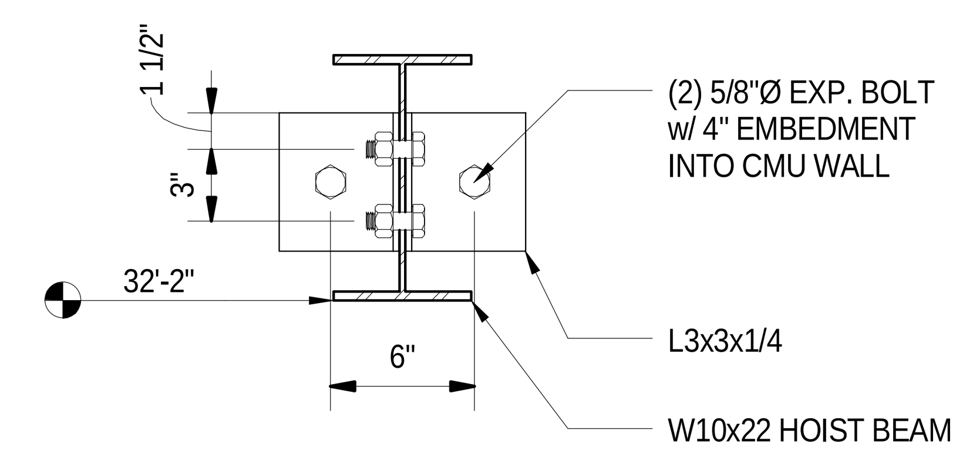
3 BRACE CONNECTION
S14-205
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'



4 BRACE CONNECTION
S14-205
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'



5 BRACE CONNECTION
S14-205
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'



6 DETAIL
S14-112
SCALE: 1 1/2" = 1'-0"
0 4" 8" 1'-4"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

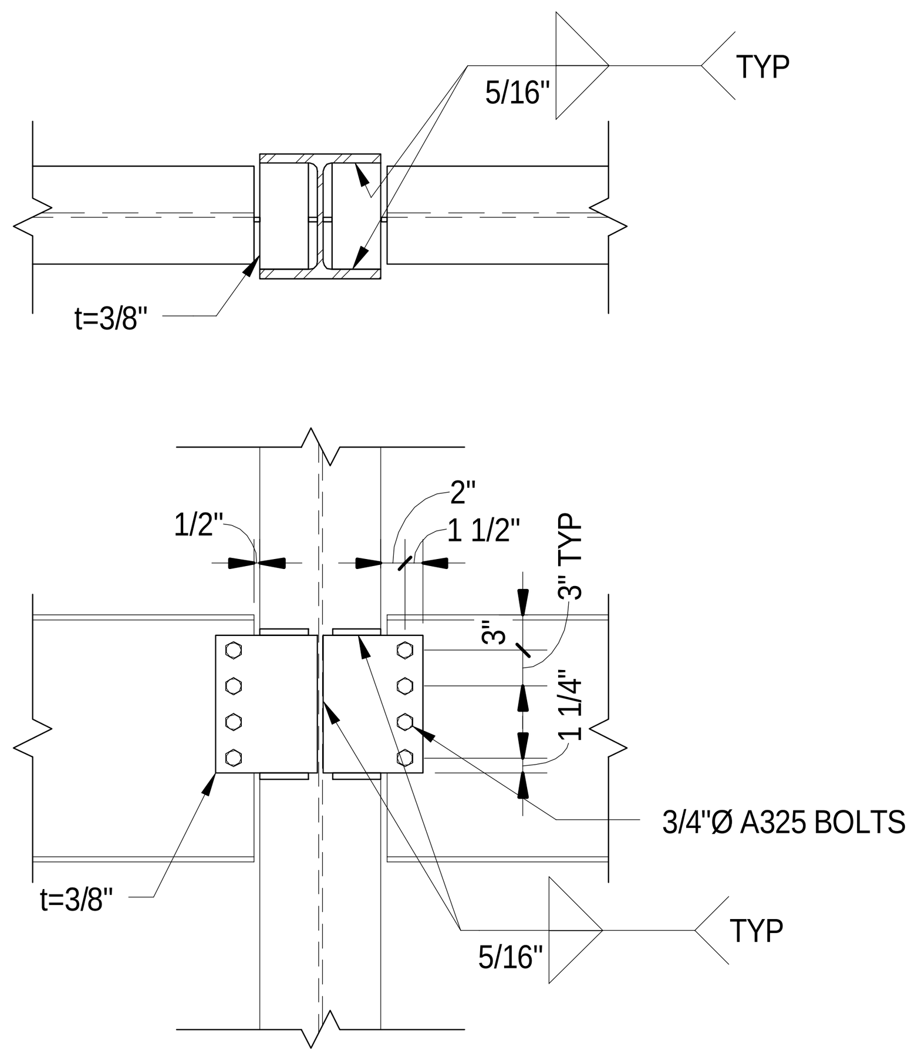
DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN
DRAWING TITLE: STRUCTURAL TYPICAL STEEL DETAILS
PROJECT NO: 301-0124
DRAWING NO: S14-207
SHEET NO: 09.22

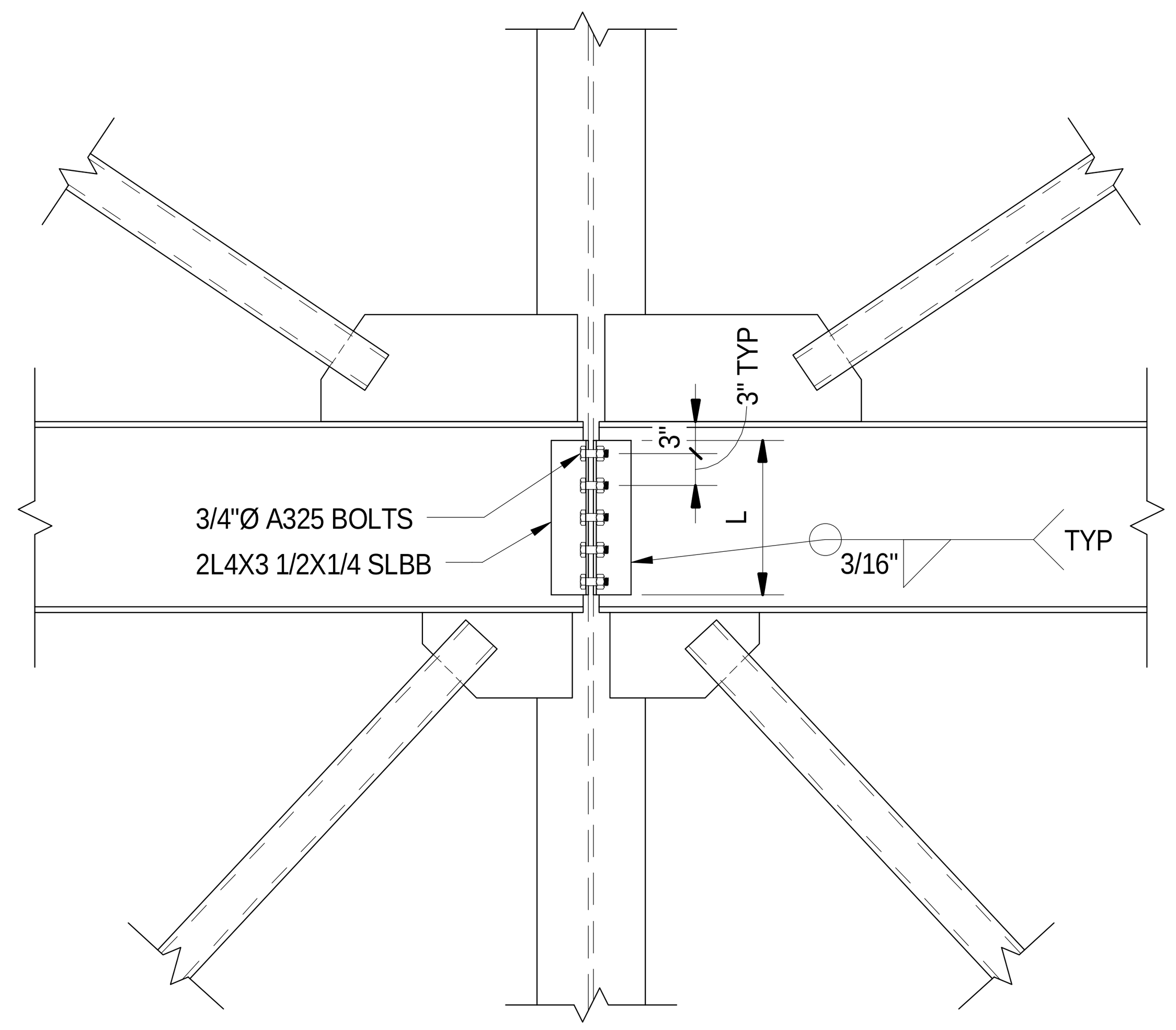


GIRDER-TO-COLUMN CONNECTION TABLE	
GIRDER	# of BOLTS
W12X30	2
W16X26, W18X40	3
W21X48 AND LARGER	4

NOTES:
1. THIS DETAIL TO BE USED FOR ANY INSTANCE WHERE AN I-BEAM FRAMES INTO A COLUMN WEB UNO.

1 TYP EXTENDED SHEAR TAB CONN. (GIRDER TO COL.)

SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

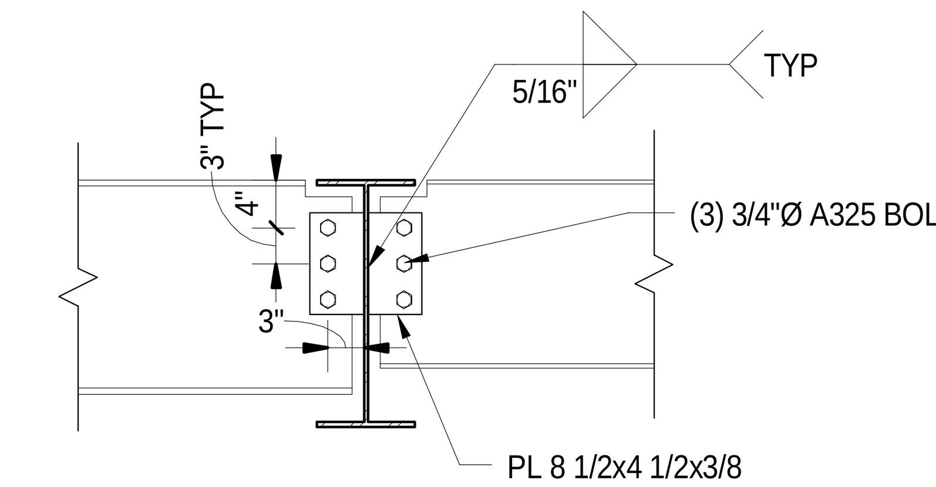


BRACED FRAME CONNECTION TABLE		
BEAM	# of BOLTS	L (in)
W18X40	5	14 1/2
W21X48	5	14 1/2
W27X94	6	17 1/2

NOTES:
1. PROVIDE ERECTION SEATING AS NECESSARY.
2. THIS SHEAR CONNECTION USED WHENEVER A HSS BRACE FRAMES INTO A BEAM UNO.
3. REFER TO S14-205 FOR BRACE CONNECTION DETAILS.

2 (S14-205) DOUBLE ANGLE SHEAR CONN. (AT BRACED FRAME ONLY)

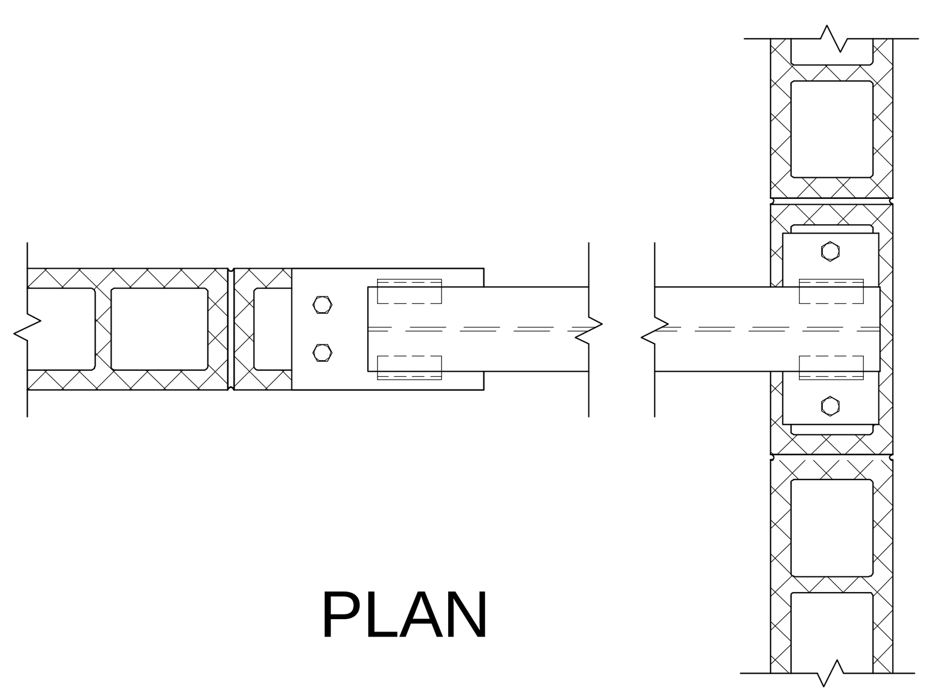
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'



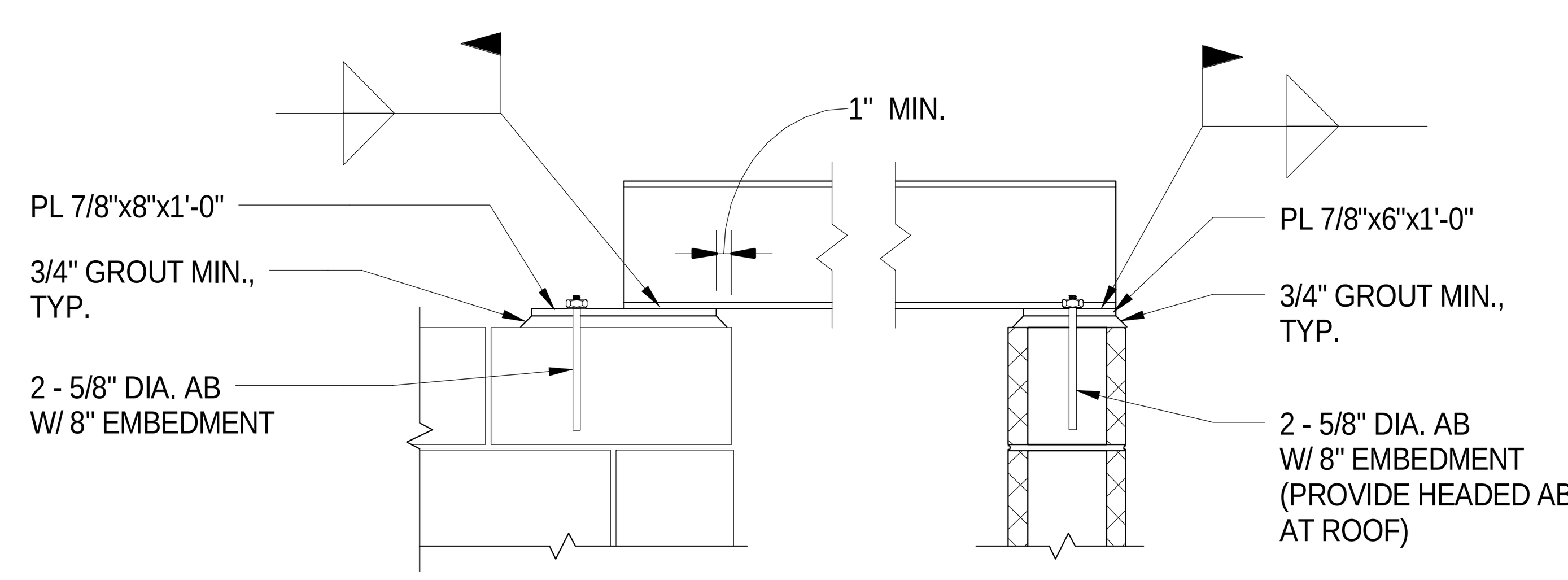
NOTES:
1. THIS DETAIL TO BE USED WHENEVER I-BEAMS FRAME INTO WEBS OF I-BEAMS UNO.

3 TYP SHEAR TAB CONN (BEAM TO GIRDER)

SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

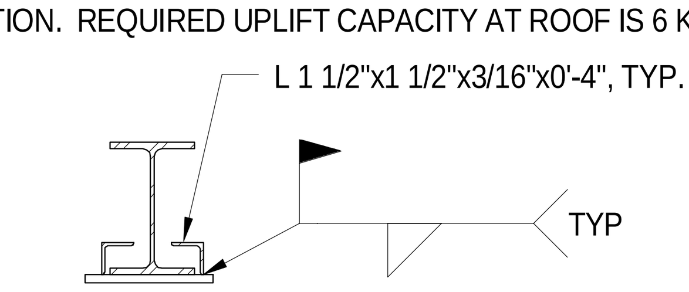


PLAN

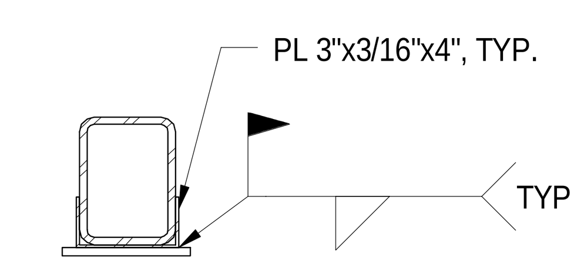


ELEVATION

NOTES:
1. PROVIDE 3 COURSES OF SOLID GROUTED UNITS MIN 2'-0" EACH SIDE OF CL PLATE.
2. WELD ONE BEAM END TO THE BEARING PLATE AND PROVIDE MOVEMENT END ACCORDING TO DETAIL ABOVE, BELOW TO THE OTHER END.
3. IF ONE END OF BEAM HAS BOLTED CONNECTION THAT ALLOWS MOVEMENT, BEARING END ON WALL SHALL BE WELDED TO BEARING PLATE.
4. IF ONE END OF BEAM HAS MOMENT CONNECTION PREVENTING MOVEMENT, BEARING END ON WALL SHALL USE MOVEMENT END DETAIL.
5. ANCHOR BOLTS SHOWN ARE CAST IN CMU WALL. PLATES RESISTING UPLIFT SHALL USE HEADED ANCHOR BOLTS. POST-INSTALLED THREADED RODS MAY BE SUBSTITUTED AT CONTRACTOR'S OPTION. REQUIRED UPLIFT CAPACITY AT ROOF IS 6 KIPS.



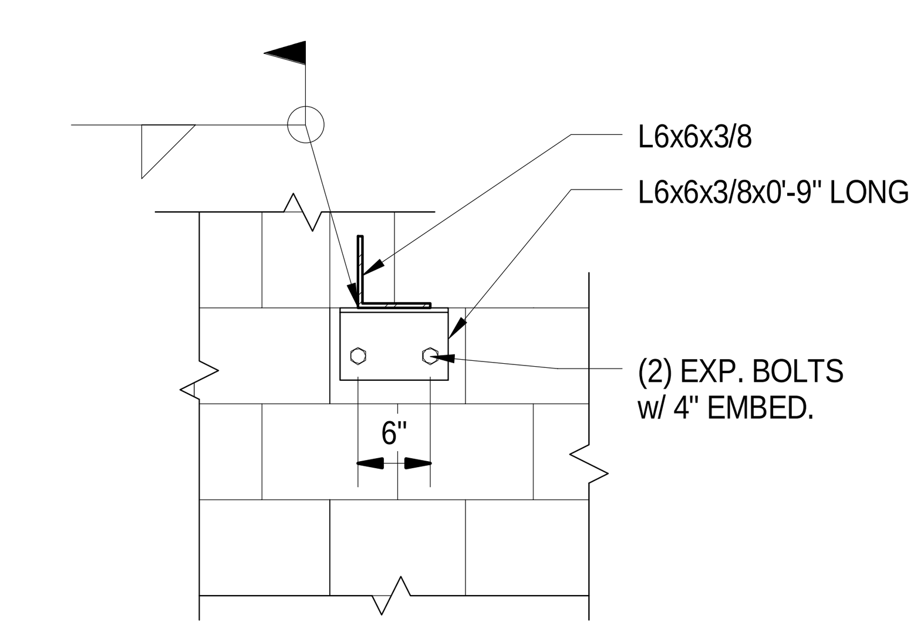
I-BEAM MOVEMENT END DETAIL



HSS MOVEMENT END DETAIL

4 TYPICAL DETAIL FOR STRUCTURAL STEEL BEARING ON CMU

SCALE: 1" = 1'-0"
0 6" 1' 2'



5 (S14-108) TYPICAL WALL BRACE DETAIL

SCALE: 3/4" = 1'-0"
0 9" 1'-9" 3'

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT, WEIYING S CHIANG, No. 29848, LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL TYPICAL CONNECTION DETAILS

PROJECT NO: 301-0124
DRAWING NO: S14-208
SHEET NO: 09.23

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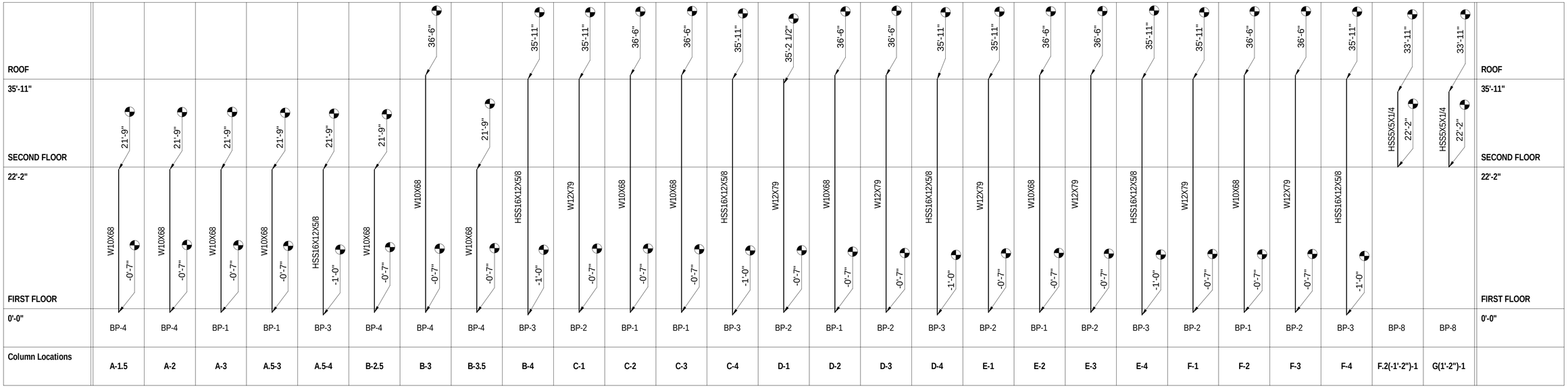
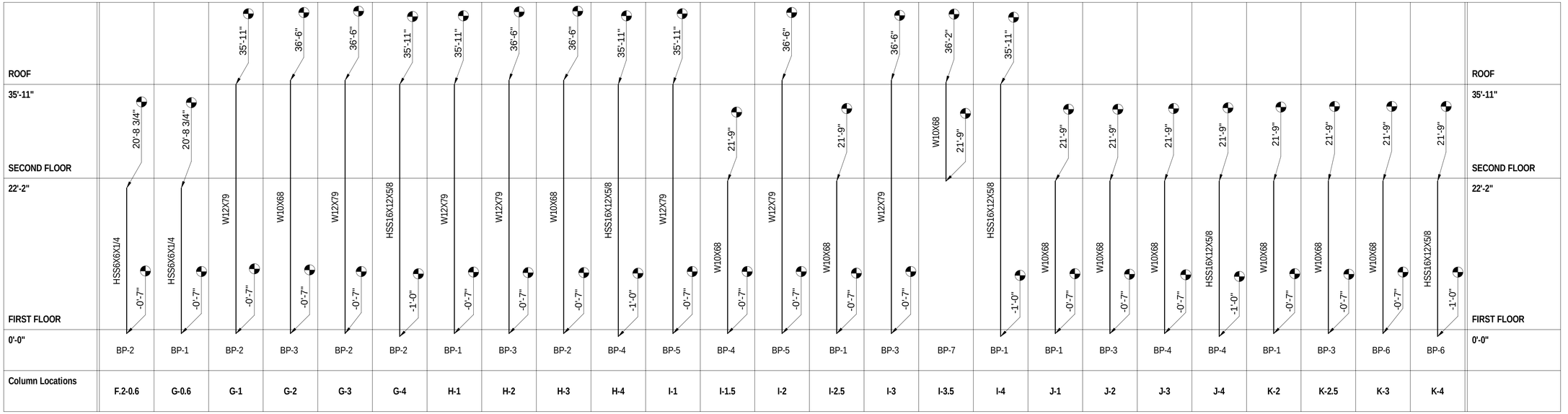


STEEL COLUMN SCHEDULE



STEEL COLUMN SCHEDULE

STEEL COLUMN SCHEDULE

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK

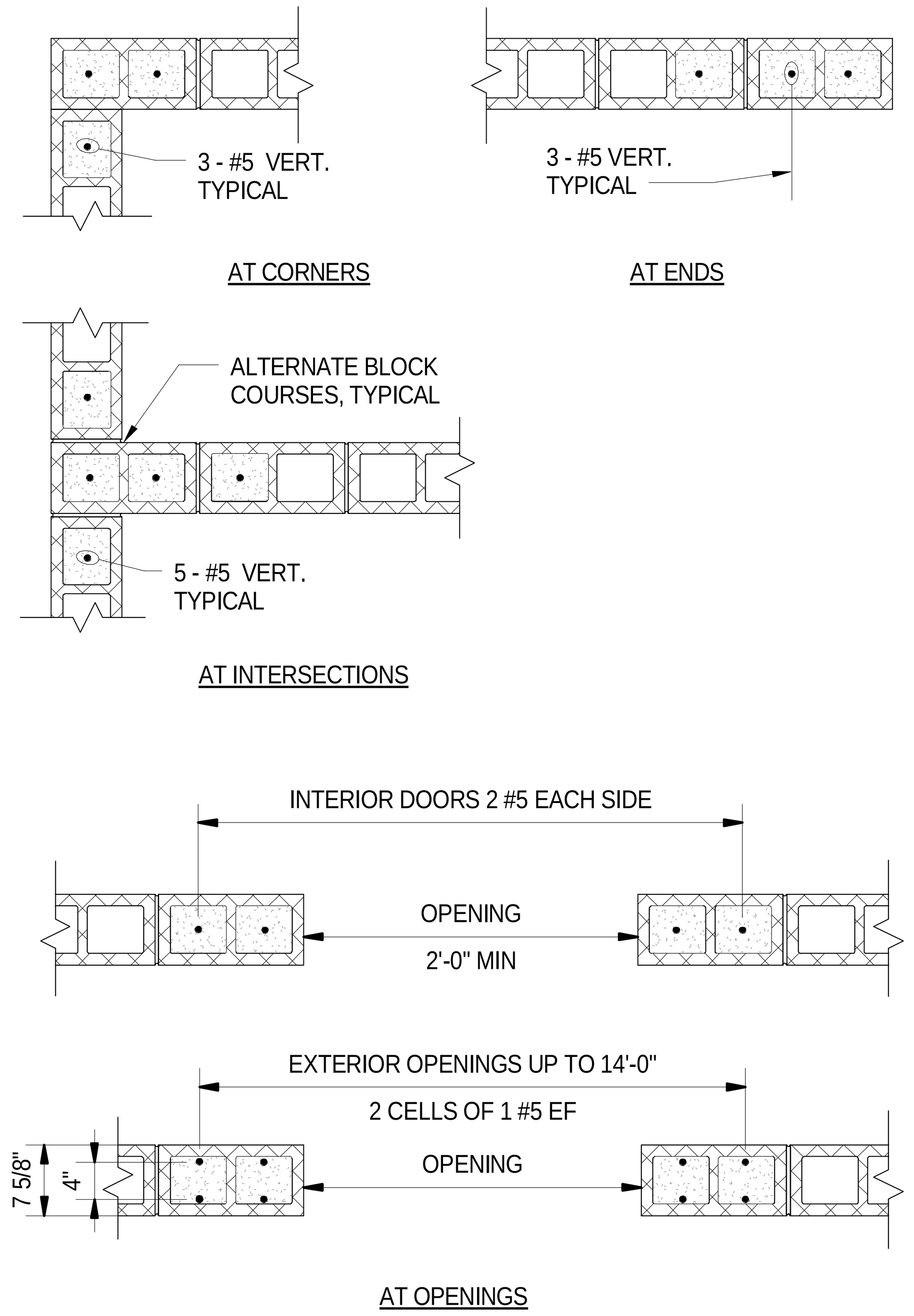
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

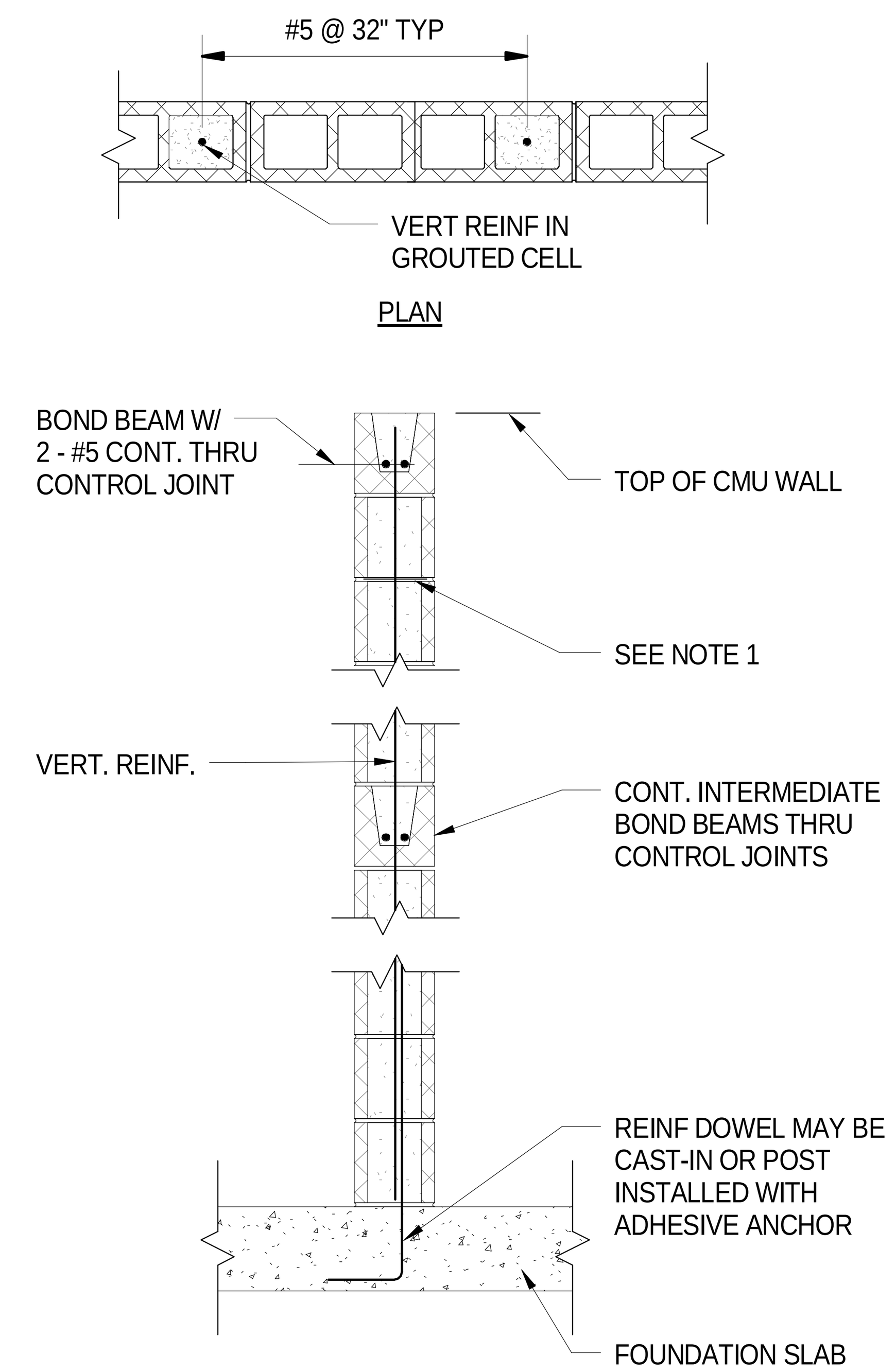
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL STEEL COLUMN SCHEDULE

PROJECT NO: 301-0124
DRAWING NO: S14-209
SHEET NO: 09.24

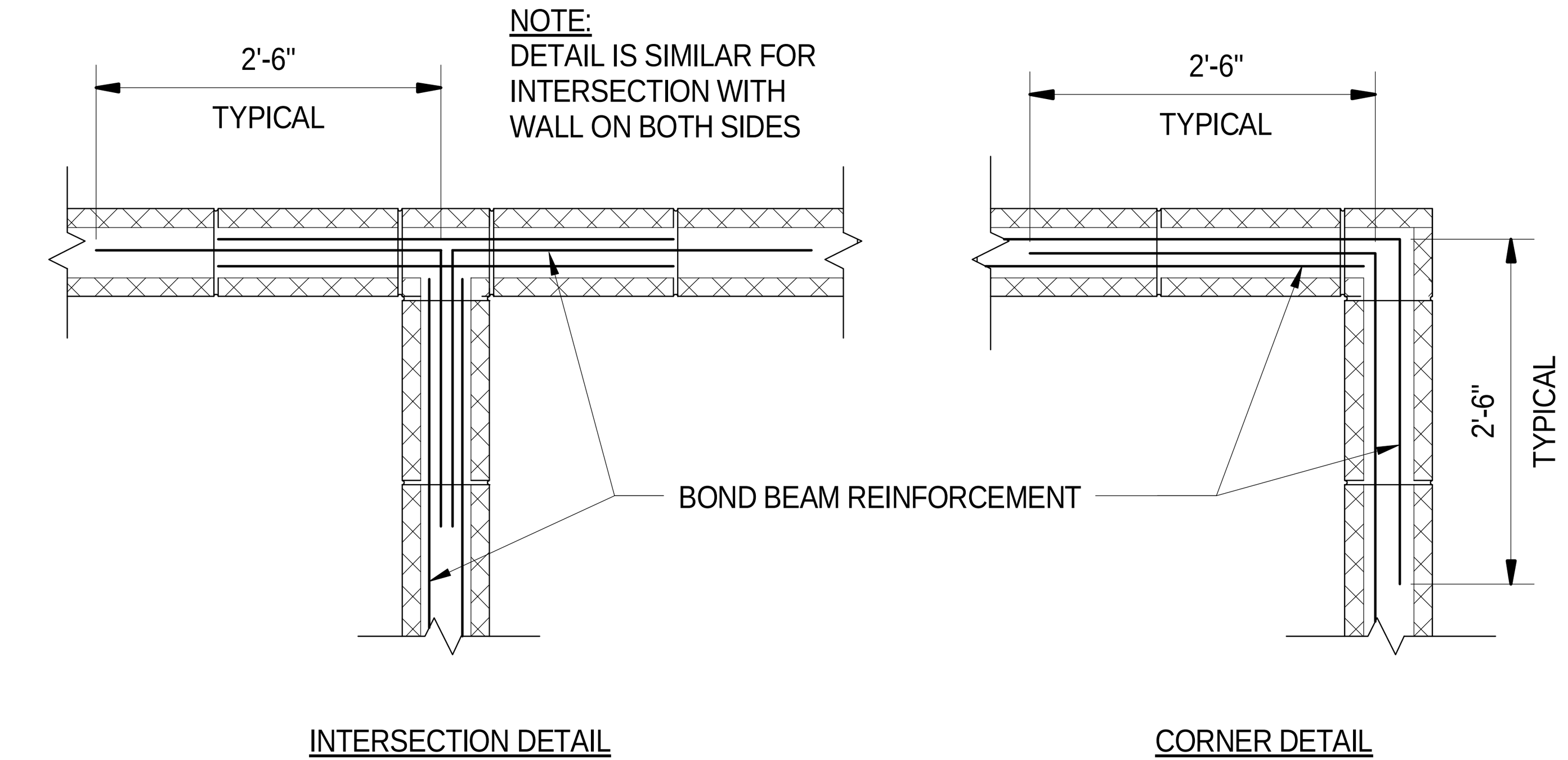


1 TYPICAL REINFORCING AT CMU WALLS
NTS

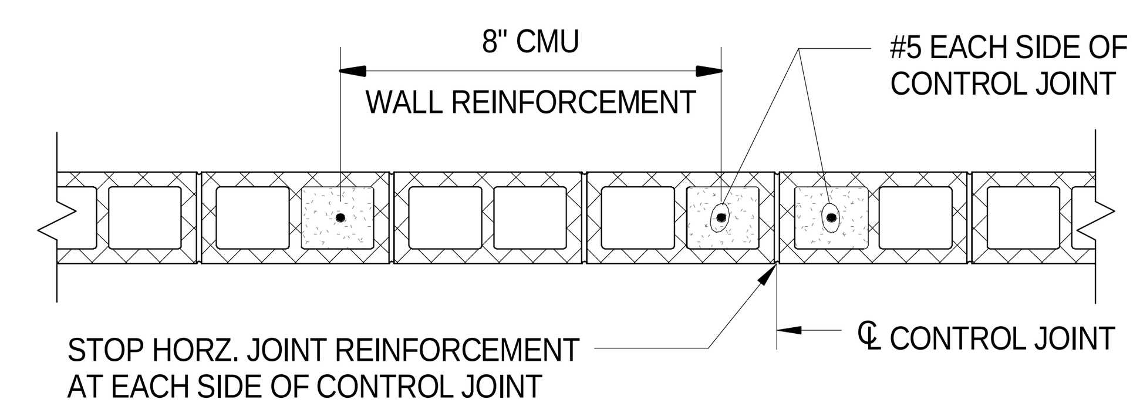


NOTE:
1. HORIZONTAL JOINT REINFORCEMENT SPACED AT 16" OC VERTICAL WITH 2 - #9 WIRE MINIMUM. PROVIDE ADDITIONAL HORIZONTAL JOINT REINFORCEMENT ONE COURSE ABOVE AND BELOW OPENINGS EXTENDING A MINIMUM OF 2'-0" BEYOND FACE OF OPENING ON EACH SIDE.

2 TYPICAL CMU WALL REINFORCEMENT
NTS

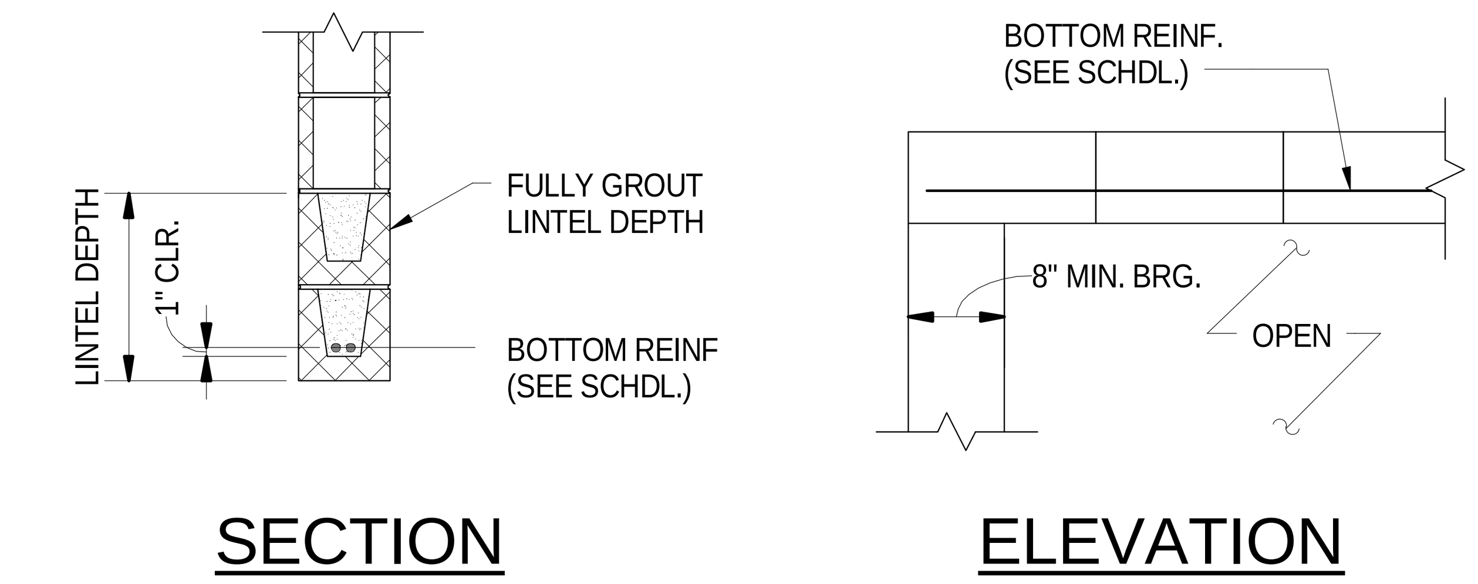


3 TYPICAL REINFORCING AT BOND BEAM INTERSECTIONS
NTS



NOTE:
SEE ARCHITECTURAL FOR CONTROL JOINT LOCATION.

4 TYPICAL REINFORCING AT CONTROL JOINT
NTS



SECTION

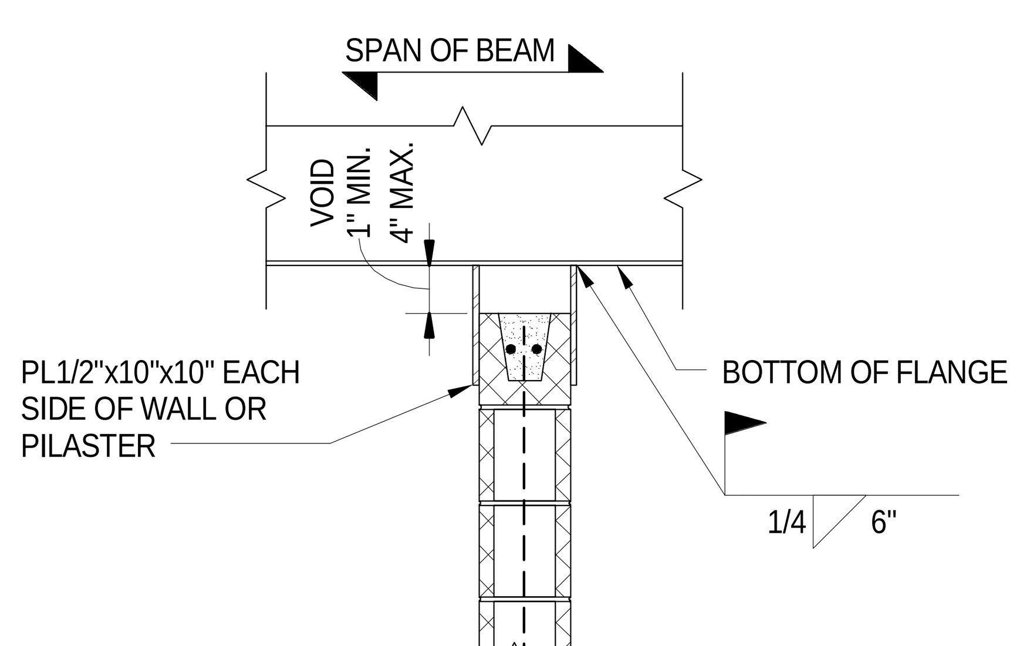
ELEVATION

NOTES:
1. FILL CMU CORE AT LINTEL BEARING WITH GROUT AND 1-#5 VERTICAL CONT. TYPICAL FULL HEIGHT FOR NON-LOAD-BEARING PARTITIONS.
2. FIELD CUT OPENINGS GREATER THAN 12".
3. USE CMU LINTEL FOR OPENINGS GREATER THAN 3'-0".
4. FOR OPENINGS 1'-0" TO 3'-0" USE L4x4x1/4, EACH SIDE OF THE WALL, WITH 8" BEARING EACH END.

LINTEL/SILL SCHEDULE

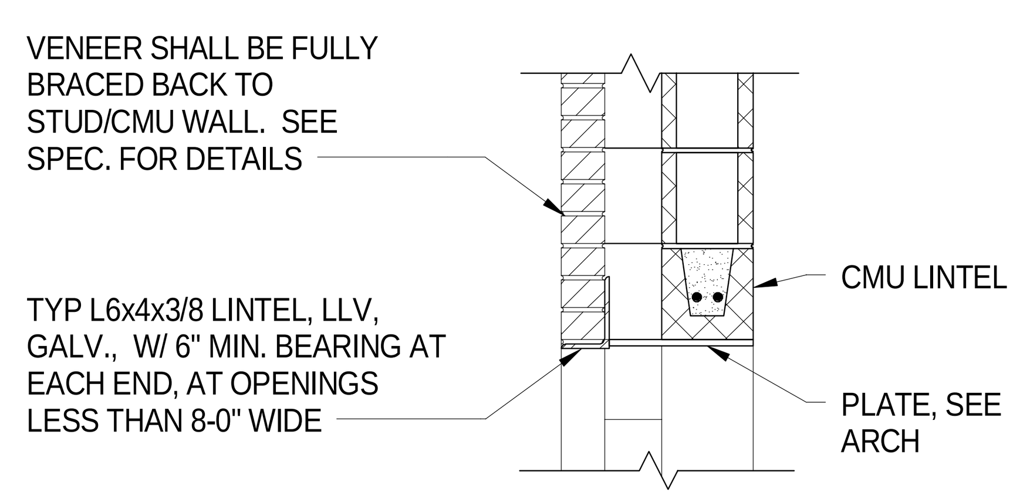
WALL OPENING	LINTEL DEPTH	REINFORCEMENT
LESS THAN 6'-0"	8"	2-#4 BOTTOM
6'-0" TO 14'-0"	16"	2-#5 BOTTOM

5 TYPICAL MASONRY LINTEL
NTS

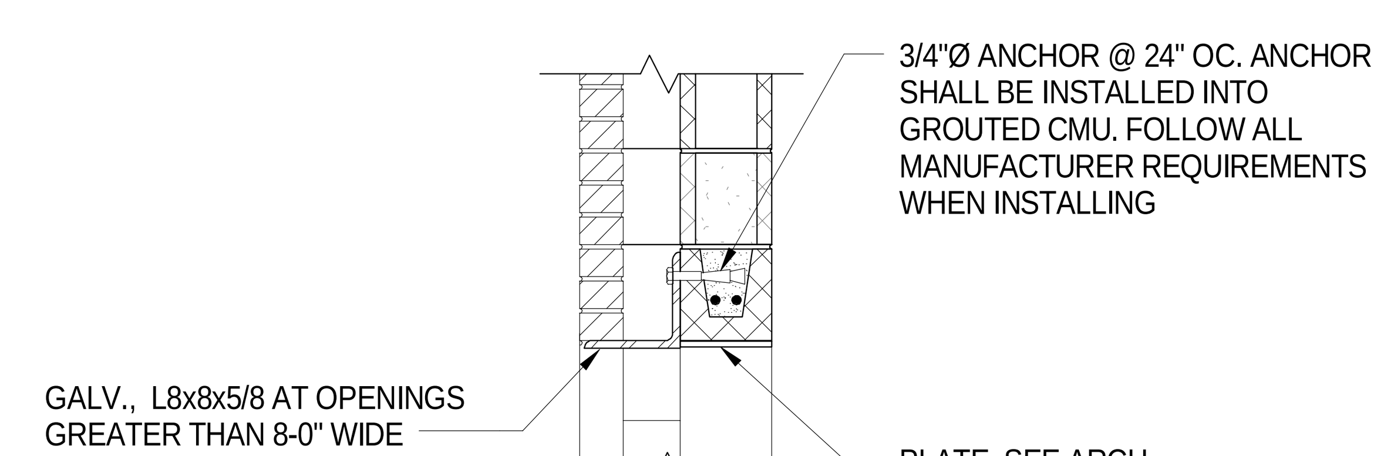


6 (S14-107) INTERIOR CMU TOP BRACING
NTS

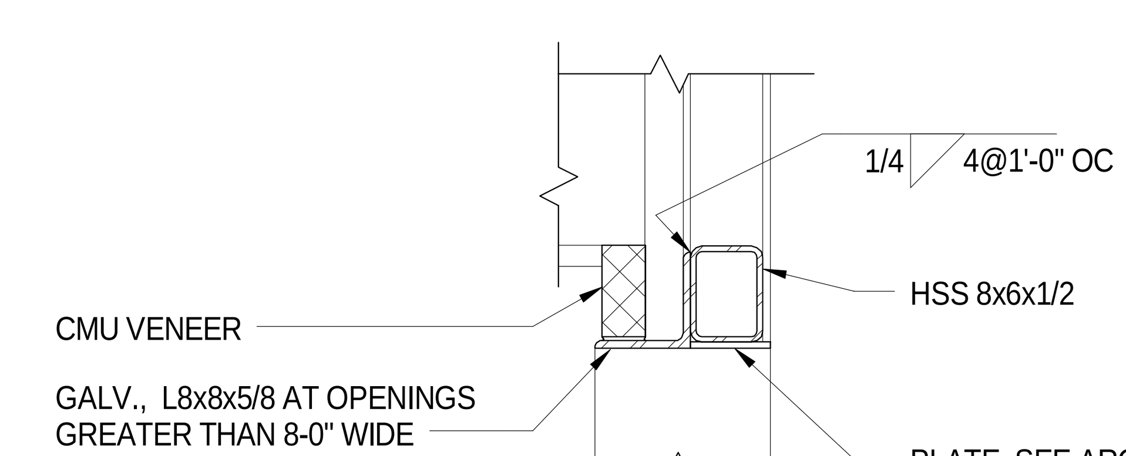
NOTES:
1. FOR CONDITIONS WHERE STEEL BEAM PENETRATES CMU WALL, CUT & FIT CMU AROUND STEEL MEMBER. AT PENETRATION, WRAP BEAM WITH 1" COMPRESSIBLE FELT BEFORE INFILLING SURROUNDING WALL.



7 BRICK VENEER LINTEL (1)
NTS



8 BRICK VENEER LINTEL (2)
NTS



9 BRICK VENEER LINTEL (3)
NTS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 07/17/13

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

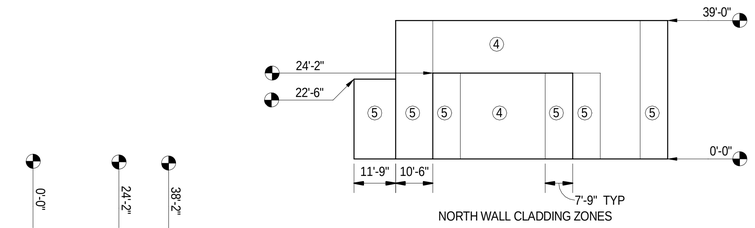
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

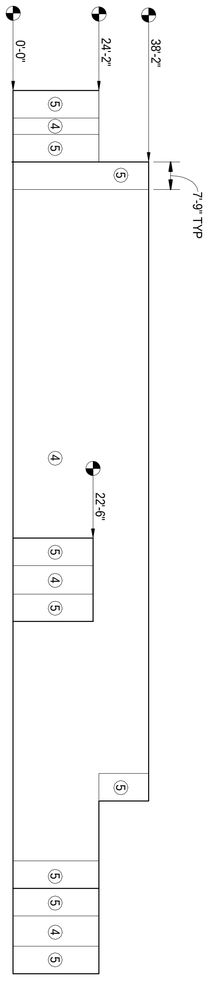
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL MASONRY STANDARD DETAILS

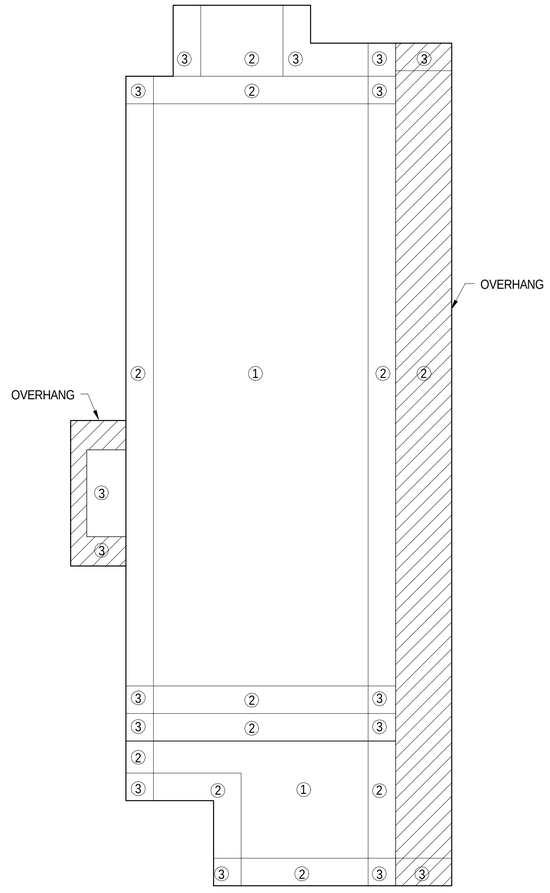
PROJECT NO: 301-0124
DRAWING NO: S14-210
SHEET NO: 09.25



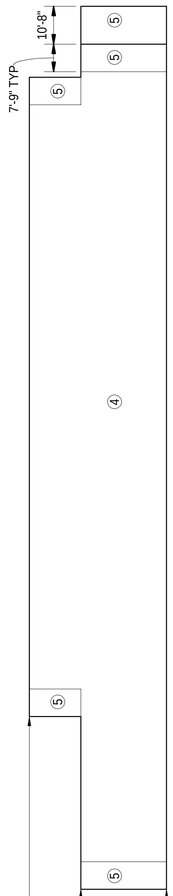
NORTH WALL CLADDING ZONES



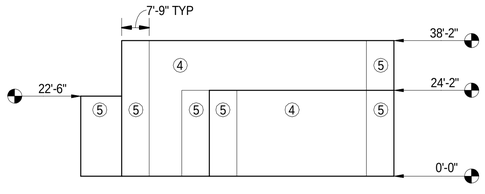
WEST WALL CLADDING ZONES



ROOF CLADDING ZONES



EAST WALL CLADDING ZONES



SOUTH WALL CLADDING ZONES

	SURFACE PRESSURE (PSF)		
ROOF TRIBUTARY AREA	10 SF	50 SF	100 SF
NEGATIVE ZONE 1	-41.1	-38.6	-37.6
NEGATIVE ZONE 2	-68.9	-51.9	-44.5
NEGATIVE ZONE 3	-103.7	-62.4	-44.5
POSITIVE ZONE 1	16.7	16.0	16.0
POSITIVE ZONES 2&3	37.6	33.7	32.1
OVERHANG ZONES 1&2	-59.2	-56.7	-55.7
OVERHANG ZONE 3	-97.5	-48.8	-27.8
WALL TRIBUTARY AREA	50 SF	100 SF	200 SF
NEGATIVE ZONE 4	-36.9	-35.2	-33.0
NEGATIVE ZONE 5	-42.4	-39.1	-34.7
POSITIVE ZONES 4&5	33.7	32.1	29.9

NOTES:
1. SURFACE PRESSURES ARE COMPONENT AND CLADDING WIND LOADS CALCULATED IN ACCORDANCE WITH CHAPTER 30 OF ASCE 7-10.
2. FOR ROOFING ANCHORAGE, APPLY ROOF WIND NEGATIVE PRESSURE WITH 10 PSF TRIBUTARY.
3. FOR WINDOWS AND DOORS, APPLY WALL WIND PRESSURE WITH TRIBUTARY CORRESPONDING TO THE SIZE OF THE WINDOW OR DOOR.
4. FOR OTHER CLADDING STRUCTURES APPLY WIND PRESSURE CORRESPONDING TO THE TRIBUTARY AREA OF THE ELEMENT.

WIND COMPONENTS AND CLADDING LOAD DIAGRAM

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT, STEVEN S. CHURCH, No. 28468, REGISTERED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL WIND CLADDING LOAD DIAGRAM

PROJECT NO: 301-0124
DRAWING NO: S14-211
SHEET NO: 09.26

4/2/2015 1:06:59 PM
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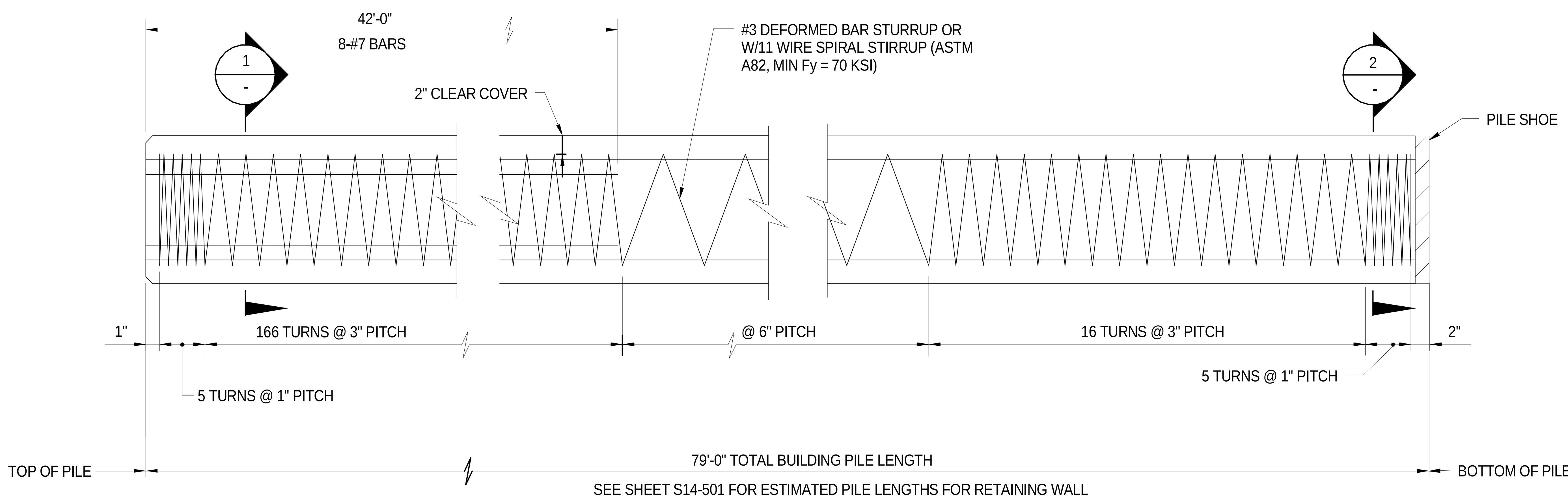
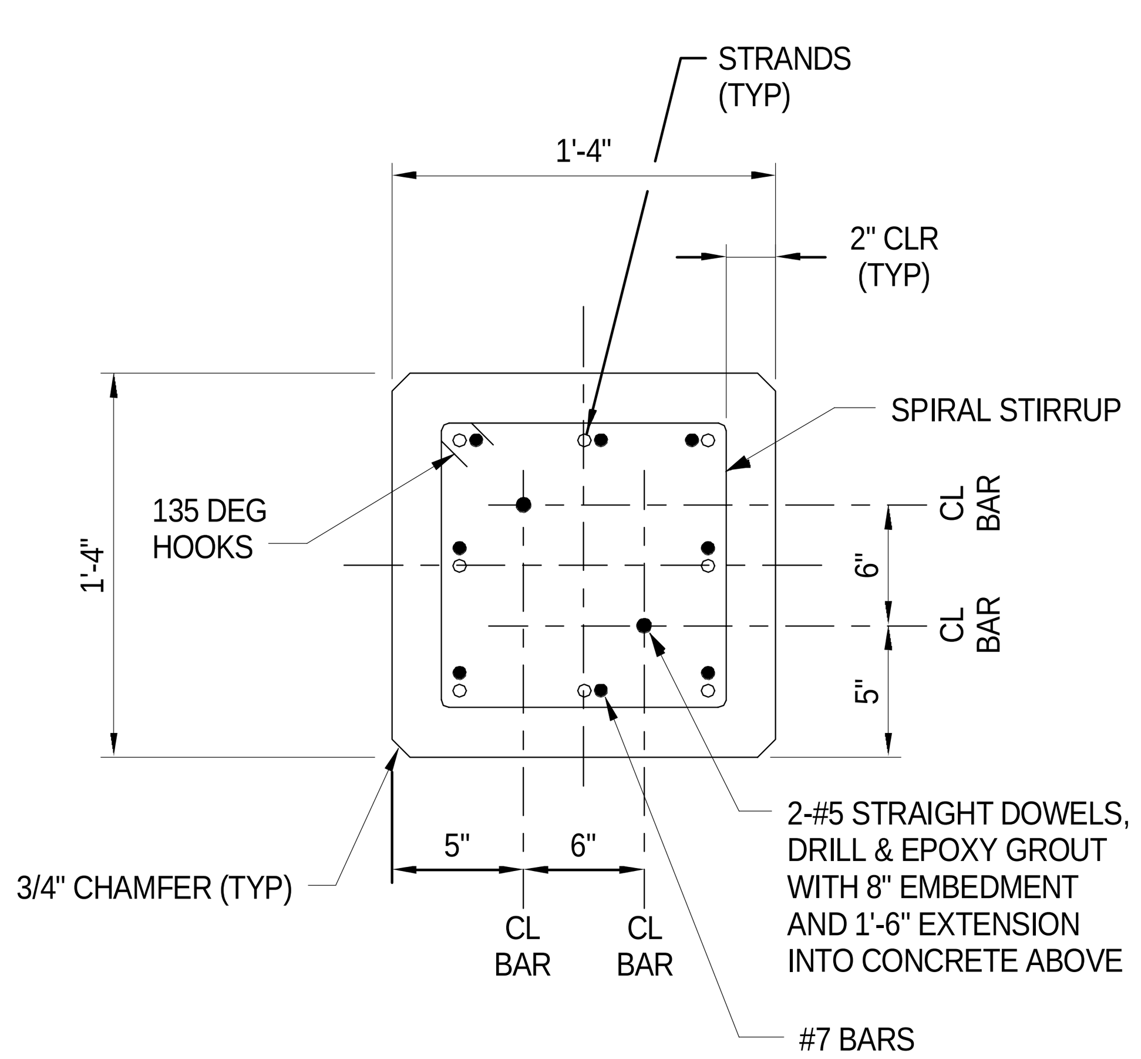


PILE ELEVATION

NOT TO SCALE

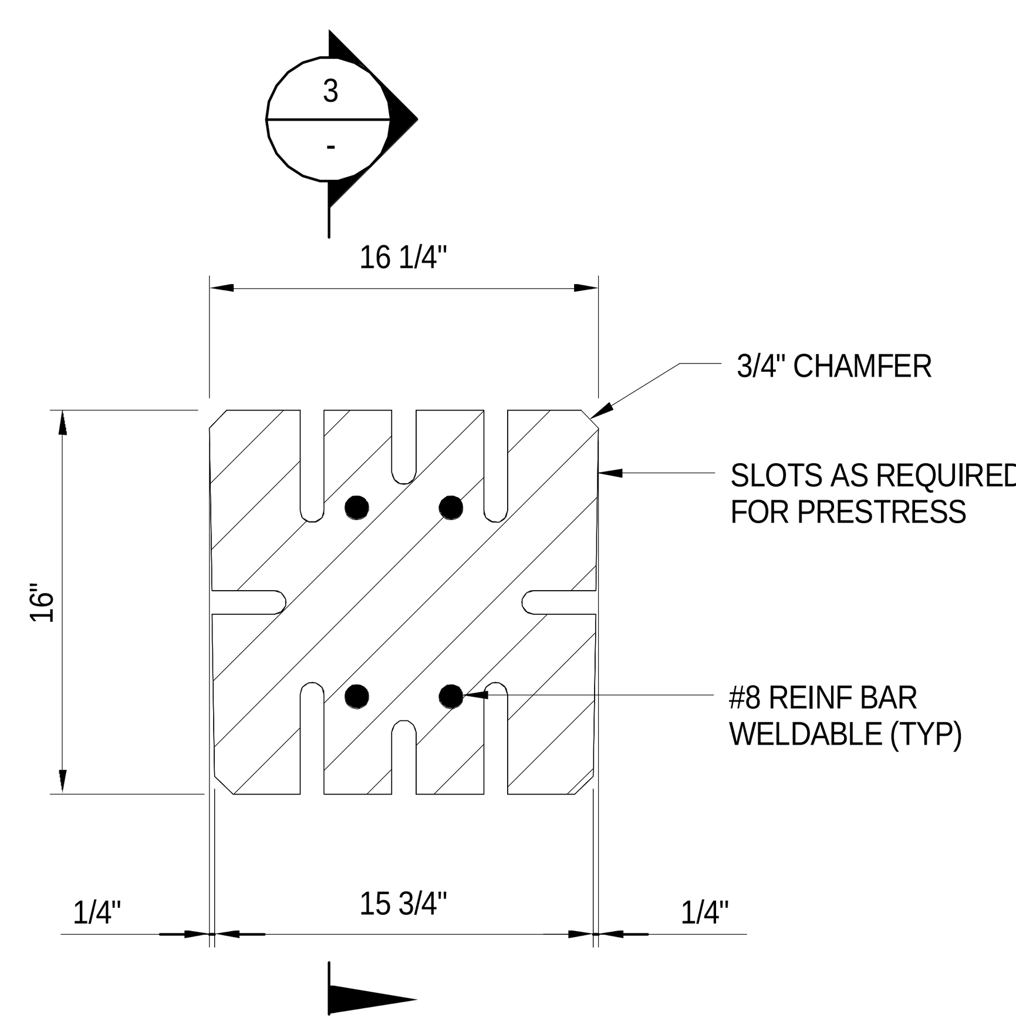
NOTES:

1. SECTIONS SHOWN HERE ARE FOR PRICING INFORMATION ONLY. PILE MANUFACTURER TO PROVIDE CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.
2. CONCRETE FOR PRESTRESSED CONCRETE PILES SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF:
   f'ci = 3750 PSI AT TRANSFER
   f'c = 6000 PSI AT 28 DAYS
3. PRESTRESSED STRANDS SHALL BE LOW RELAXATION 1/2" DIAMETER SEVEN WIRE UNCOATED STRANDS CONFORMING TO ASTM A416 GRADE 270.
4. INITIAL TENSION ON 1/2" DIAMETER STRANDS SHALL BE 31,000 LBS PER STRAND (JACKING TENSION).
5. NO PRESTRESS SHALL BE TRANSFERRED TO THE CONCRETE UNTIL IT HAS ACHIEVED THE MINIMUM COMPRESSION STRENGTH AT TRANSFER AS SHOWN BY THE CYLINDER TEST.
6. SHOULD SPLICES BE REQUIRED, THE CONTRACTOR SHALL PROVIDE A COMPLETE SUBMITTAL TO ACHIEVE FULL CONTINUITY FOR REVIEW.
7. PILE REINFORCING SHOWN REPRESENTS THE MINIMUM REINFORCING REQUIRED. THE CONTRACTOR SHALL DESIGN THE PILE REINFORCING AS PER THE PILE SPECIFICATIONS FOR THE PERMANENT DESIGN AND PROVIDE ANY ADDITIONAL REINFORCING FOR LIFTING AND HANDLING REQUIREMENTS.
8. MAXIMUM DESIGN PILE LOADS ARE AS SPECIFIED IN FOUNDATION NOTES ON SHEET S14-001.
9. PILES SHALL BE DRIVEN TO A DEPTH WITH TIP ELEVATION OF -66 FEET (NAVD88).
10. PILE ELEVATION SHOWN REFLECTS 79'-0" PILE. IF PDA TESTING INDICATES THAT AN ALTERNATE PILE LENGTH IS APPROPRIATE, THE CONTRACTOR SHALL SUBMIT A REVISED PILE CONFIGURATION FOR REVIEW AND APPROVAL BY THE ENGINEER.
11. FOR BITUMEN COATING ON PILES, SEE SPECIFICATIONS.



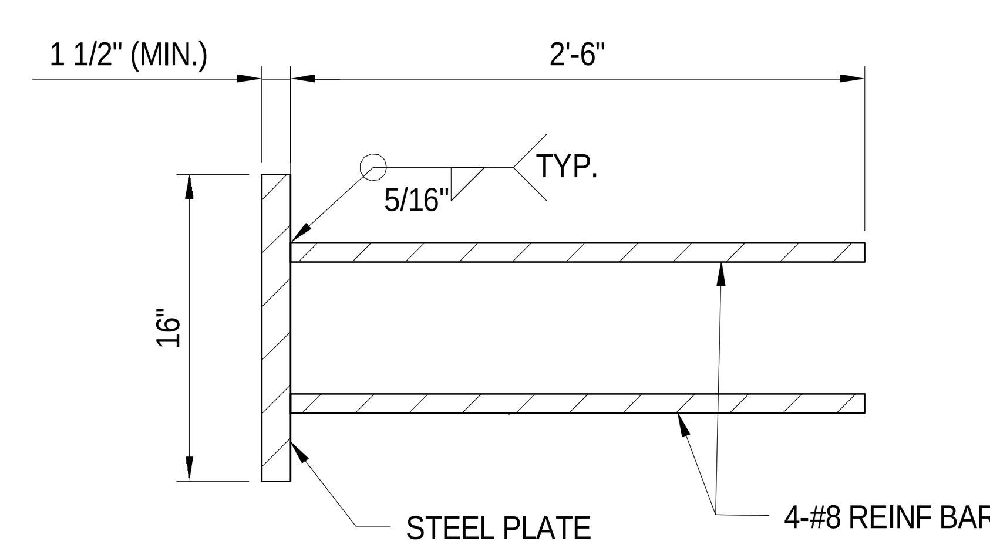
SECTION

NOT TO SCALE



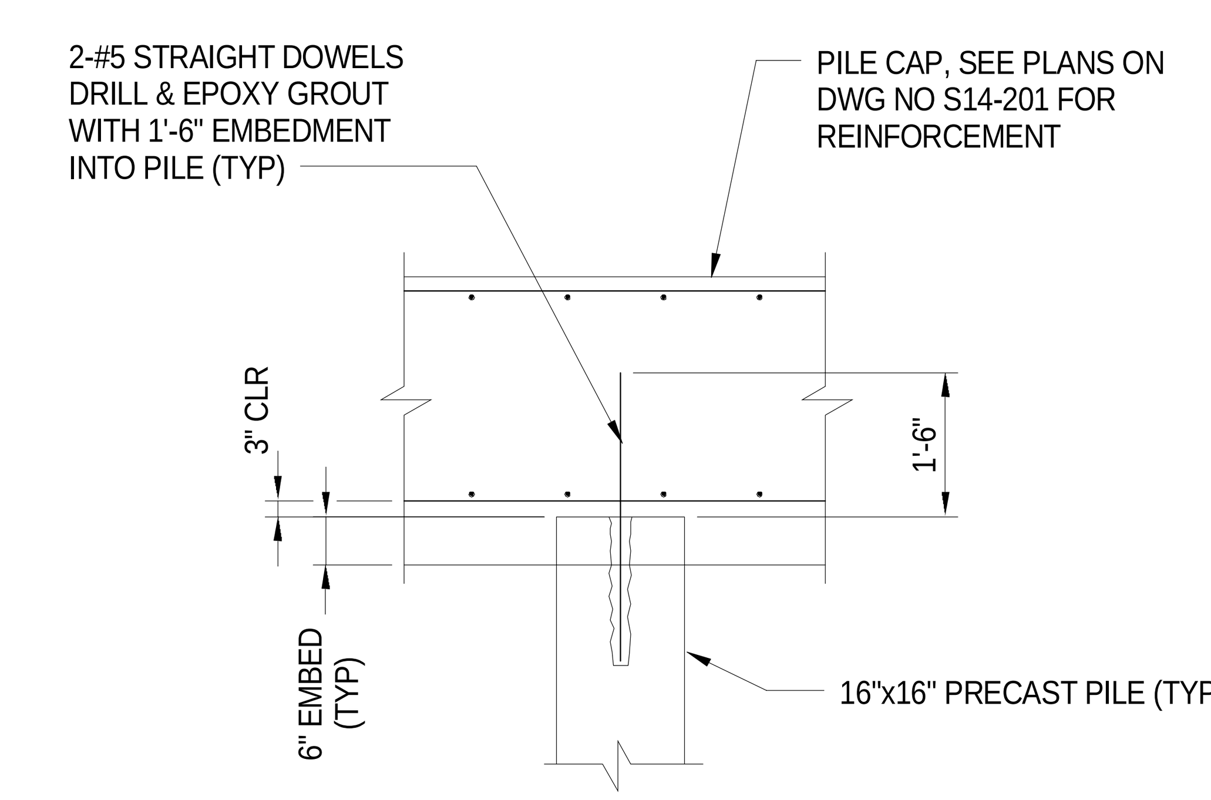
SECTION

NOT TO SCALE



SECTION

NOT TO SCALE



PILE EMBEDMENT DETAIL

NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 03/26/15

DESIGNER/DRAFTER: DLH

CHECKED BY: SWC

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/ BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL PILE SECTIONS AND DETAILS

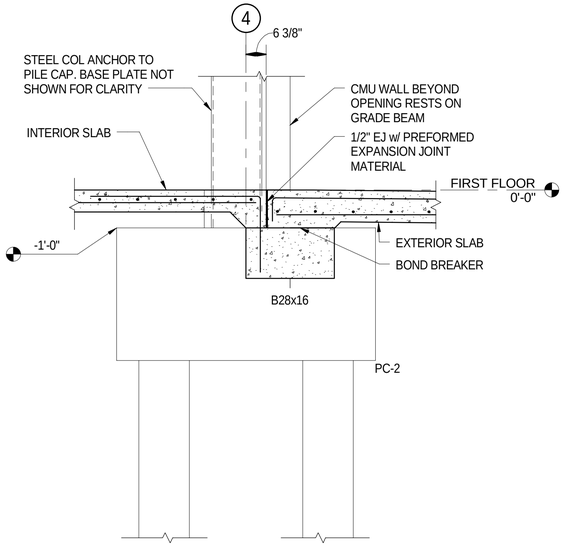
PROJECT NO: 301-0124

DRAWING NO: S14-212

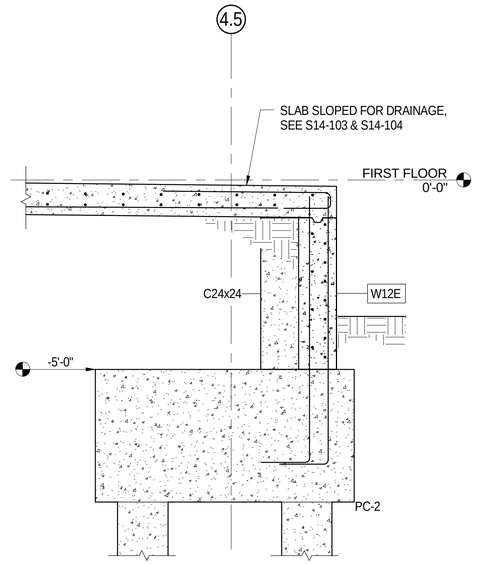
SHEET NO: 09.27

SHEET NOTES

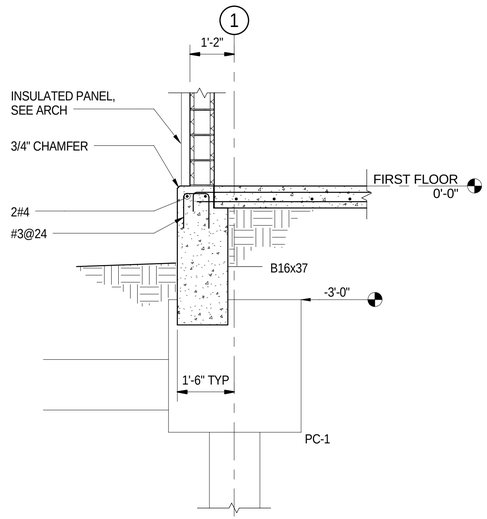
1. ALL REINFORCING IS NOT SHOWN IN THESE DETAILS. REFER TO REINFORCING PLANS, BEAM SCHEDULE, WALL SCHEDULE, AND TYPICAL CMU DETAILS FOR REINFORCING NOT SHOWN OR SPECIFIED ON THIS SHEET.
2. REINFORCING IN SIMILAR PATTERN TO THAT IN 3/S14-301 IS NOT SHOWN FOR SIMPLICITY.
3. TURNDOWNS AT SLAB EDGES AT 45° ANGLE UNO.



1 S14-101 DETAIL OF BUILDING SLAB EDGE AT LOADING DOCK
1/2" = 1'-0"

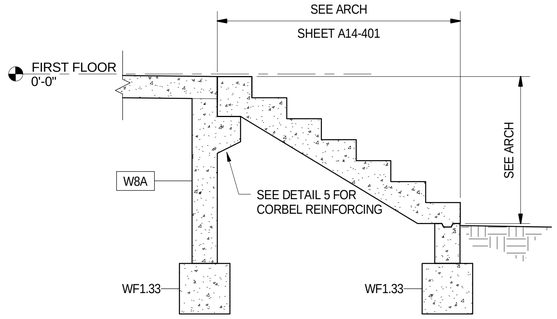


2 S14-101 DETAIL AT LOADING DOCK EDGE
1/2" = 1'-0"

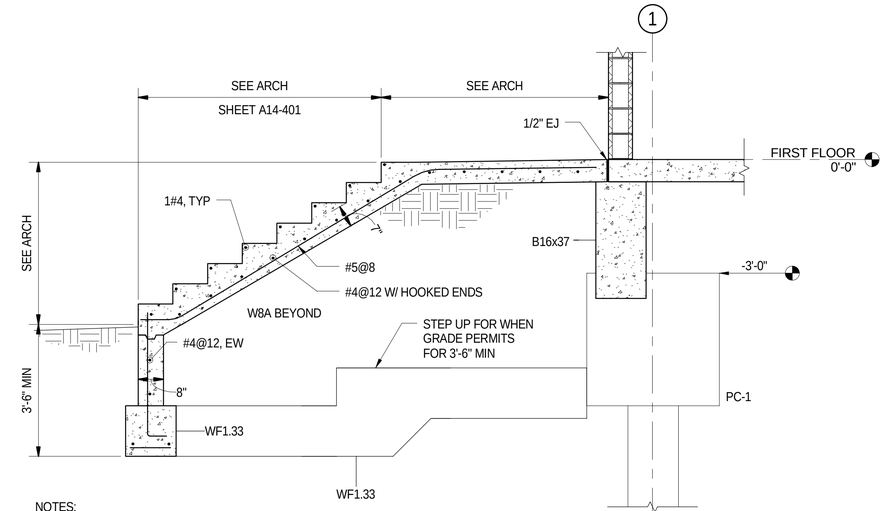


NOTES:
1. DETAIL APPLIES TO ALL BUILDING EDGES WITHOUT EXTERIOR SLABS.

3 S14-102 DETAIL OF TYP SLAB EDGE
1/2" = 1'-0"

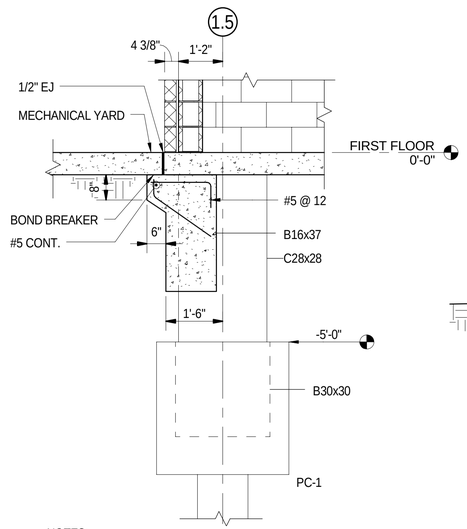


7 S14-103 DETAIL
1/2" = 1'-0"



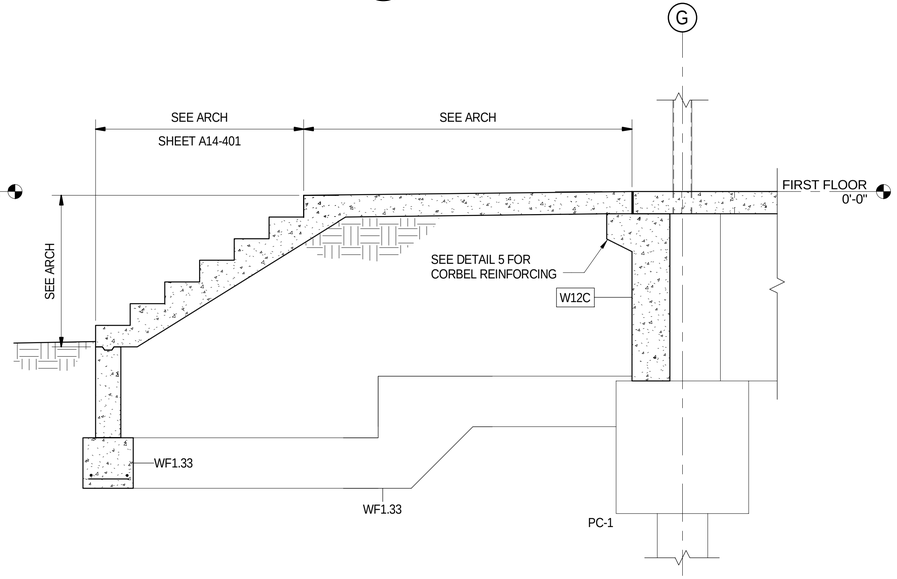
NOTES:
1. STAIR SHOWN ILLUSTRATES TYPICAL CONSTRUCTION AND REINFORCING FOR ALL EXTERIOR CONCRETE STAIRS. VERIFY LANDING AND SITE ELEVATIONS WITH ARCHITECTURAL SHEETS & CIVIL SHEETS CC-001 & CC-004. REFER TO ARCHITECTURAL DRAWING A14-401 FOR NUMBER OF TREADS. ADJUST RISER HEIGHT AS NECESSARY.

4 S14-101 DETAIL OF TYPICAL CONCRETE STAIR
1/2" = 1'-0"



NOTES:
1. DETAIL APPLIES TO ALL BUILDING EDGES WITH PILE SUPPORTED EXTERIOR SLABS AT NORTH END OF BUILDING UNO.

5 S14-101 DETAIL
1/2" = 1'-0"



6 S14-102 DETAIL
1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK OF CONNECTICUT REGISTERED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - FOUNDATIONS

PROJECT NO: 301-0124
DRAWING NO: S14-301
SHEET NO: 09.28

4/2/2015 1:07:03 PM
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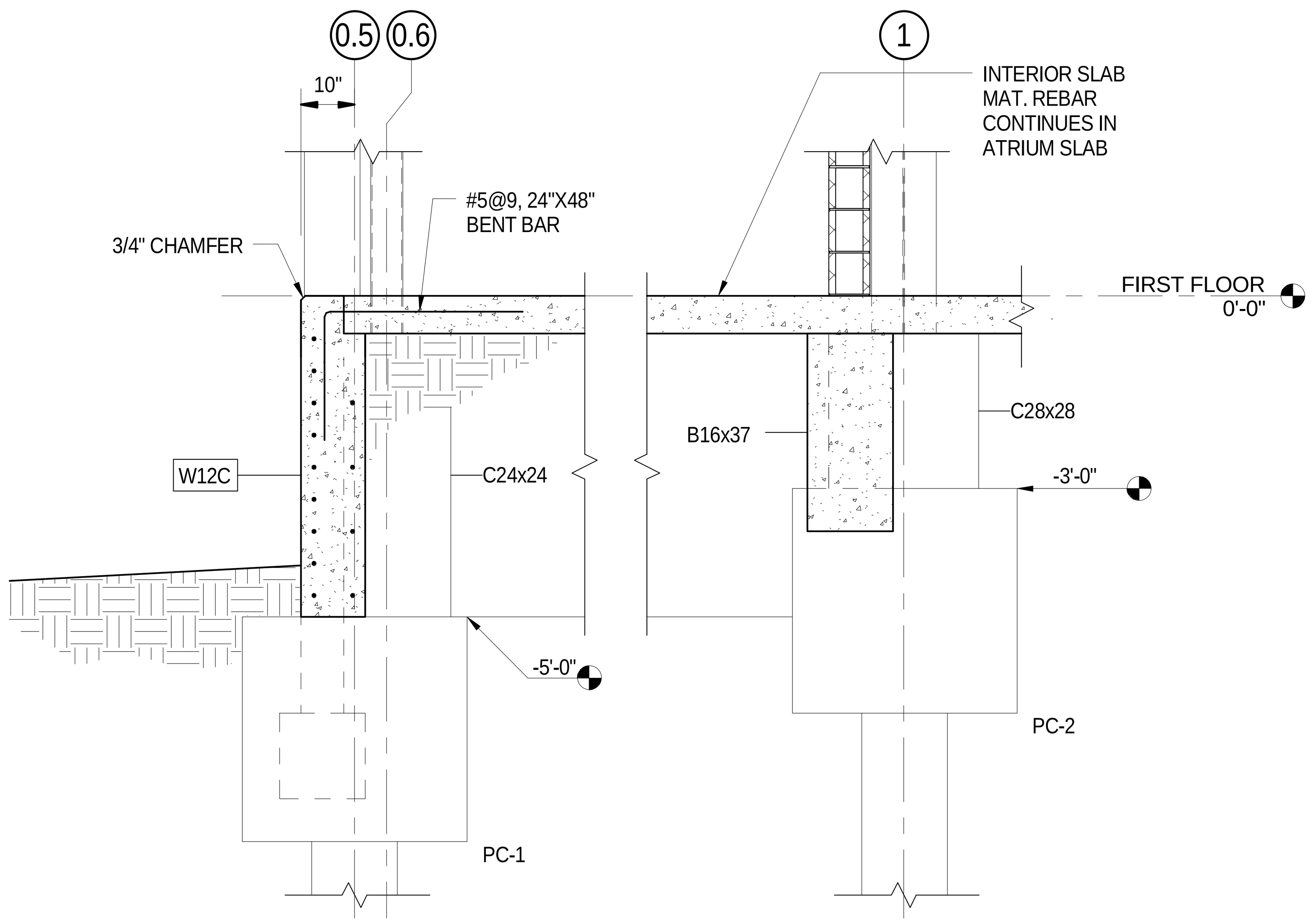
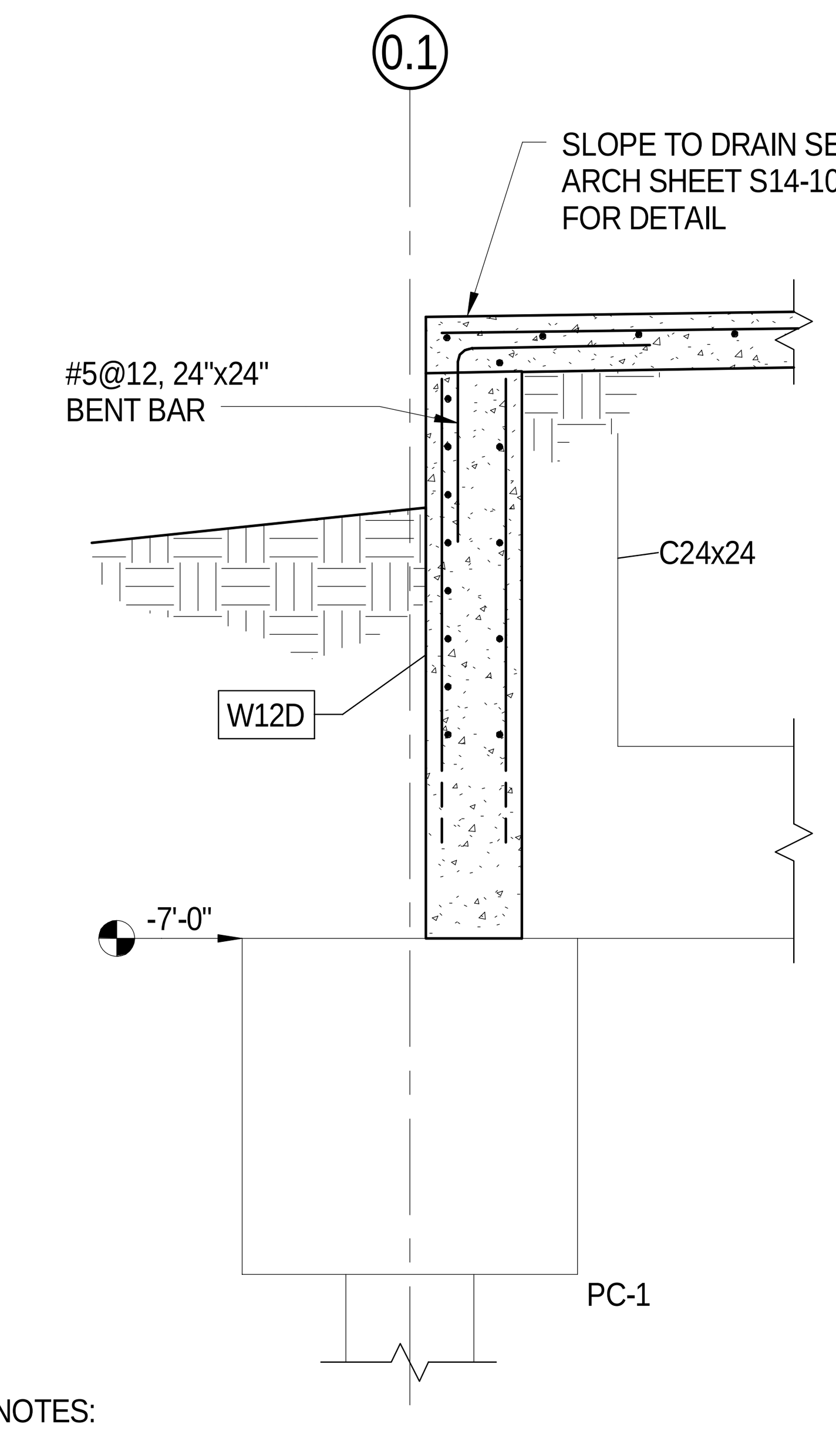
SHEET NOTES

1. REFER TO REINFORCING PLANS, BEAM SCHEDULE, WALL SCHEDULE, AND TYPICAL CMU DETAILS FOR REINFORCING NOT SHOWN OR SPECIFIED ON THIS SHEET.
2. REINFORCING IN SIMILAR PATTERN IS NOT SHOWN FOR SIMPLICITY.
3. TURNDOWNS AT SLAB EDGES AT 45° ANGLE UNO.

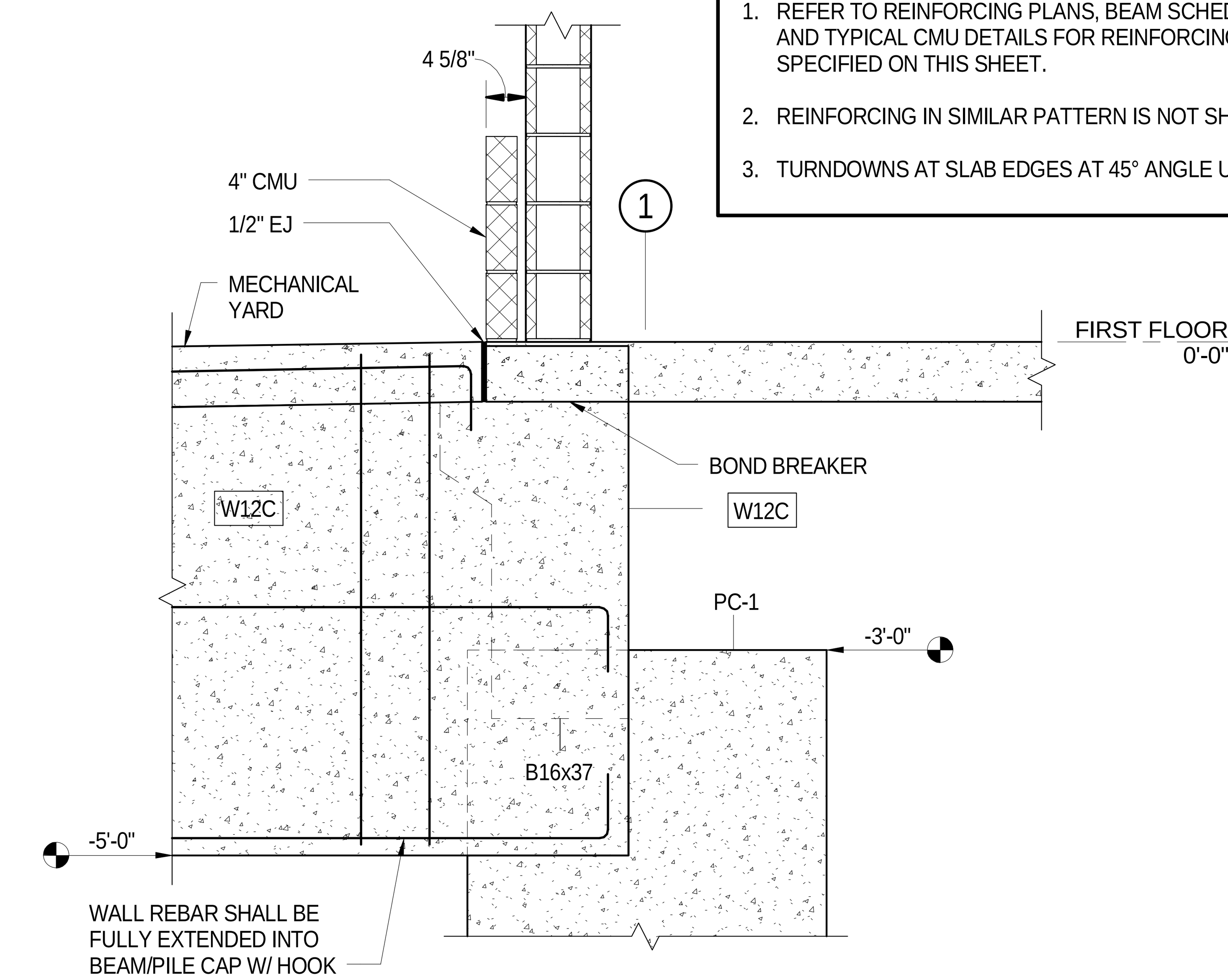


1 S14-102 ATRIUM FOUNDATION AND SLAB DETAIL
1/2" = 1'-0"

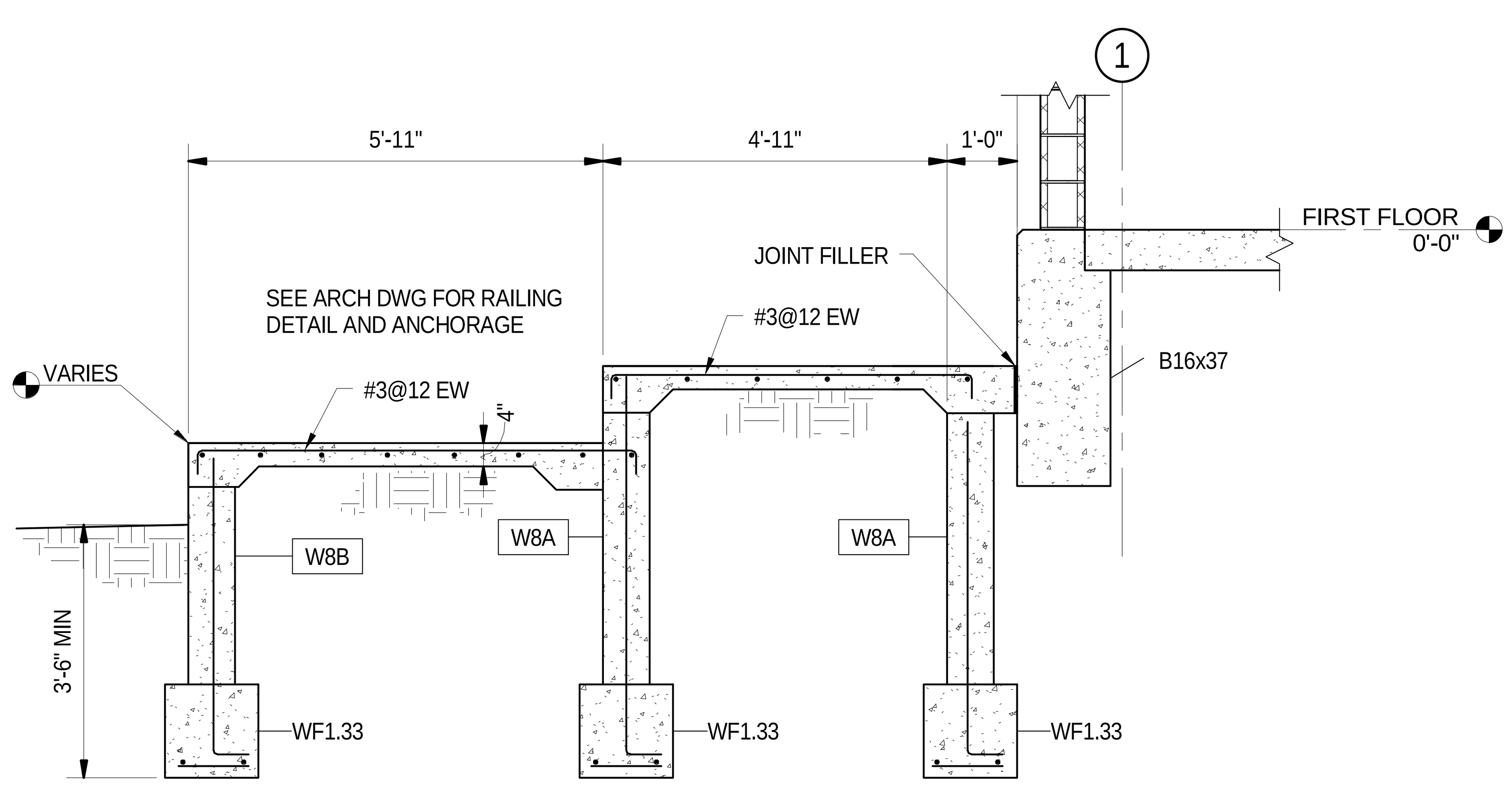


NOTES:
1. SLAB CONNECTION TO WALL ALSO APPLIES TO EDGES ON .5A & B.5.

2 S14-101 TYPICAL EDGE CONDITION FOR MECH YARD SLAB
1/2" = 1'-0"

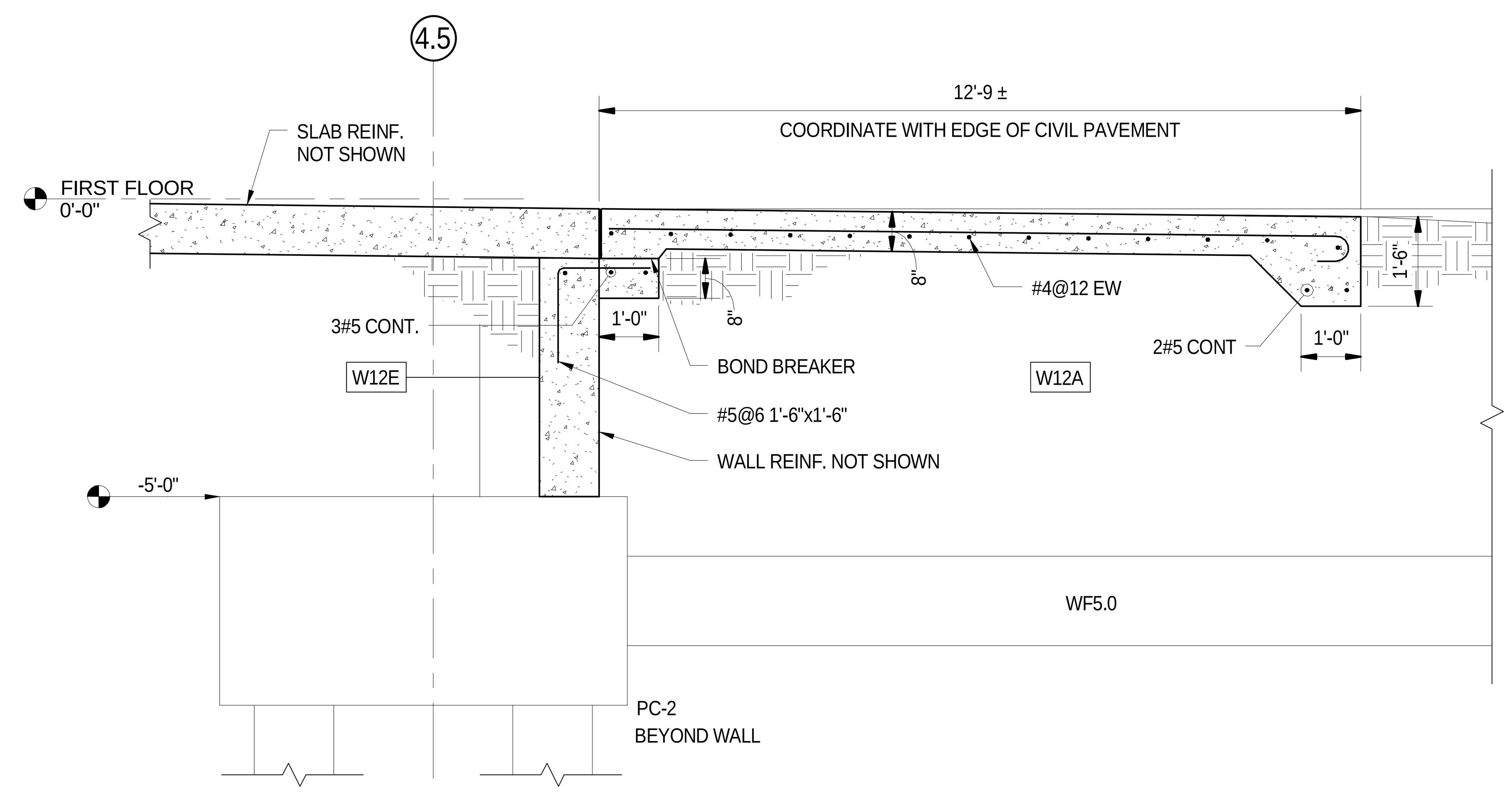


3 S14-101 DETAIL
3/4" = 1'-0"



NOTES:
1. RAMP REINFORCING #3@12 EW CONTINUES THROUGH NORTH LANDING SLAB.
2. NORTH LANDING END WALL CONNECTION TO SLAB SHALL BE SIMILAR TO WEST WALL SHOWN IN DETAIL ABOVE.

4 S14-101 ENTRANCE RAMP DETAIL
1/2" = 1'-0"



5 S14-104 LOADING DOCK RAMP DETAIL
1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

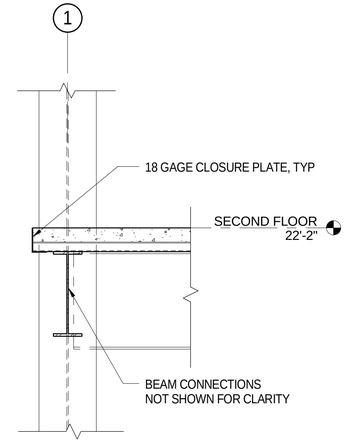
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD
FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

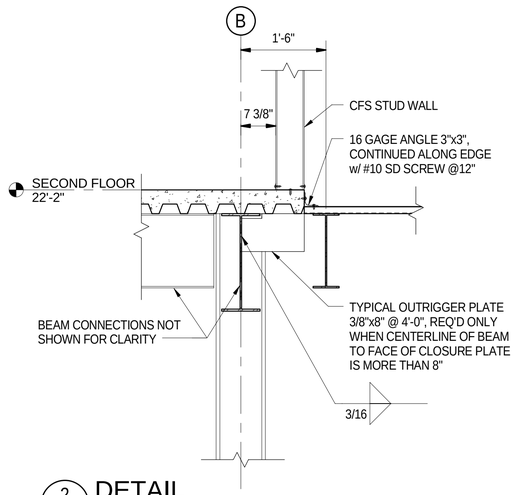
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - FOUNDATIONS

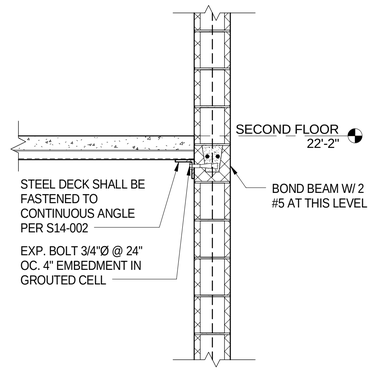
PROJECT NO: **301-0124**
DRAWING NO: **S14-302**
SHEET NO: **09.29**



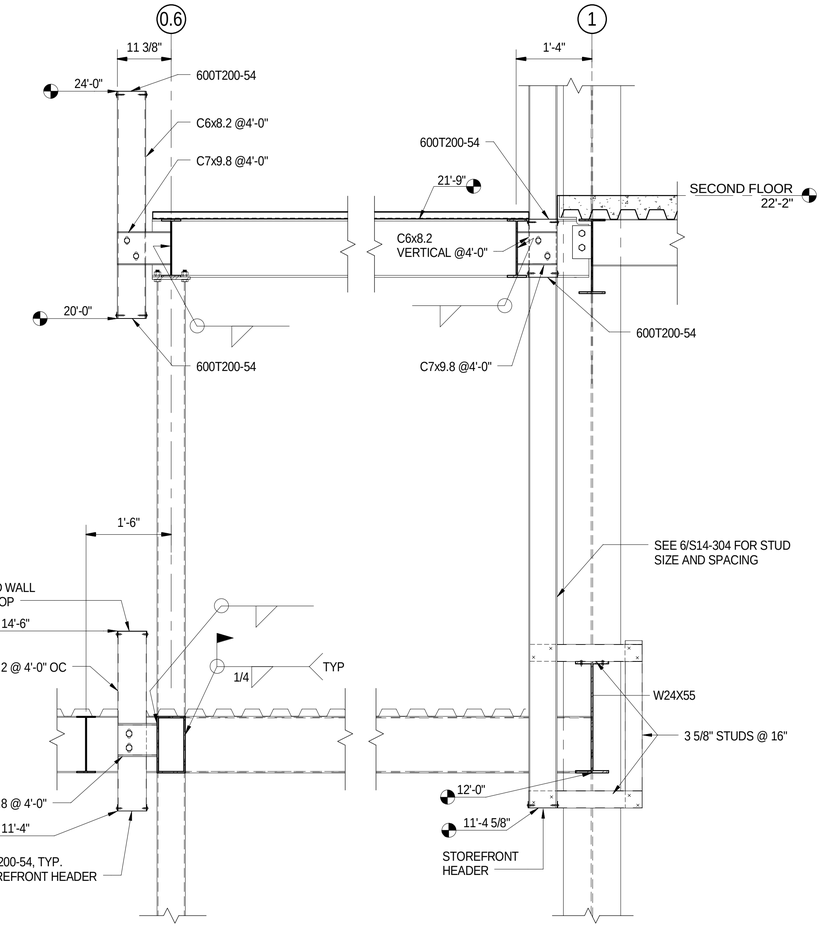
1 S14-109 DETAIL
3/4" = 1'-0"

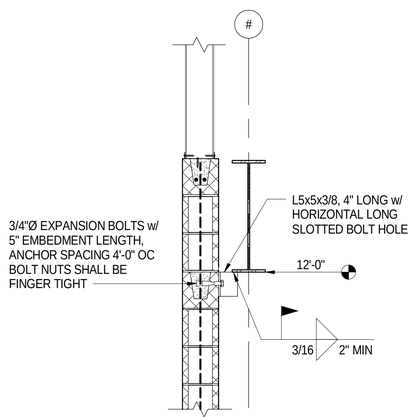


2 S14-109 DETAIL
3/4" = 1'-0"

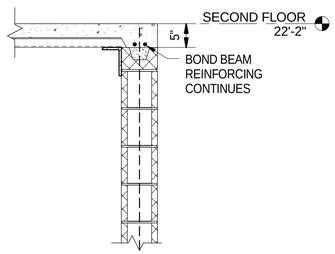


3 S14-109 DETAIL
3/4" = 1'-0"

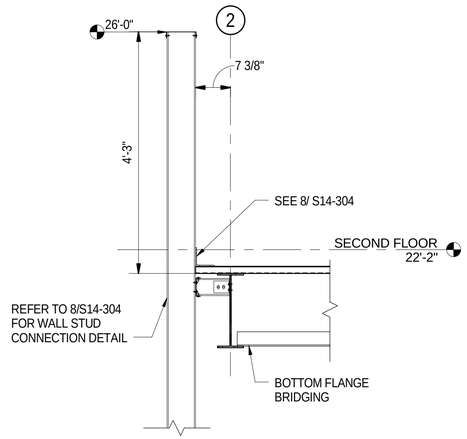




4 S14-107 TYP EXT CMU WALL BRACING
3/4" = 1'-0"



5 S14-110 DETAIL
3/4" = 1'-0"



NOTES:
1. THIS DETAIL APPLIES TO ALL LOW ROOF EDGES w/ PARAPETS. DECK WILL SPAN IN OTHER DIRECTION ALONG SOME WALLS.

6 S14-109 TYPICAL EDGE CONDITION AT LOW ROOF
3/4" = 1'-0"

7 S14-108 DETAIL
3/4" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT, STEPHEN S. CHANG, No. 28648, REGISTERED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - STEEL

PROJECT NO: 301-0124
DRAWING NO: S14-303
SHEET NO: 09.30

4/2/2015 1:07:08 PM
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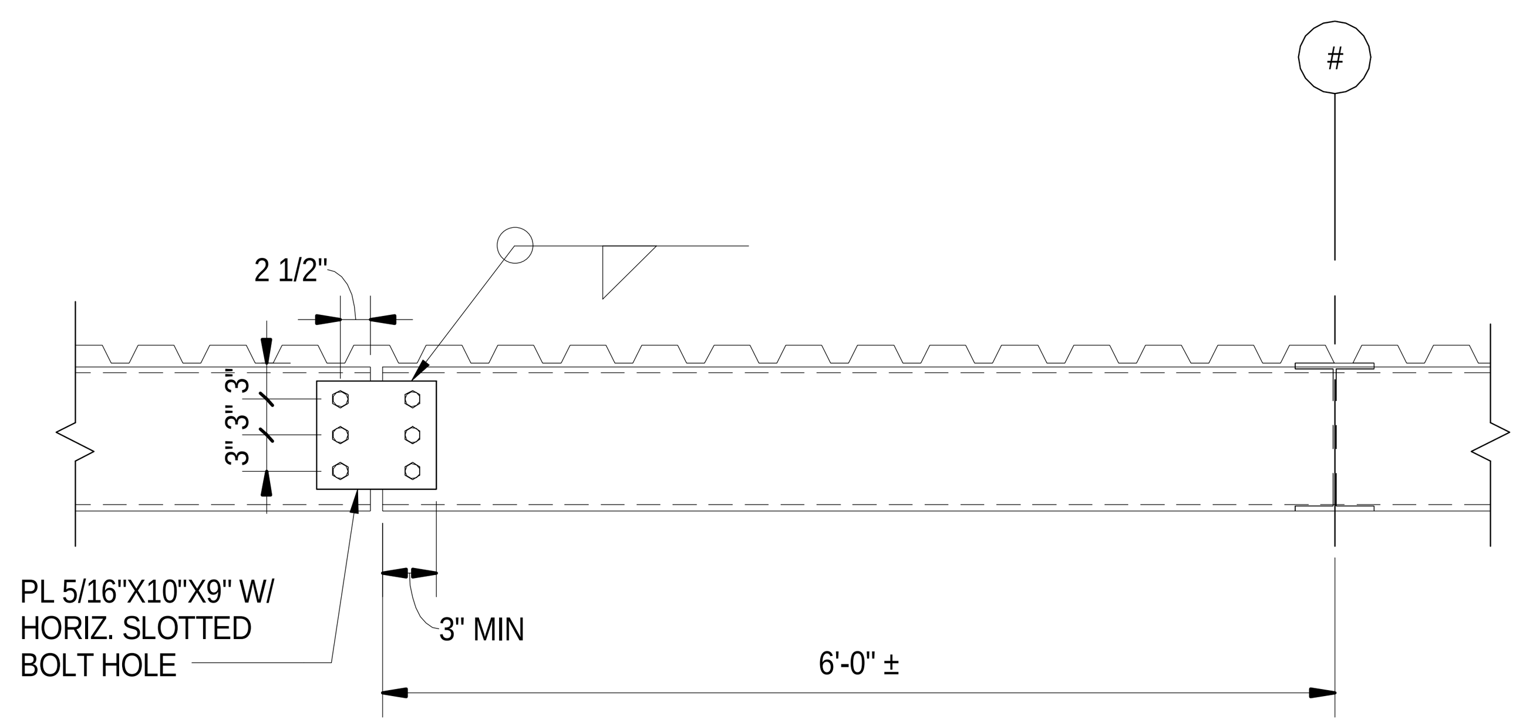
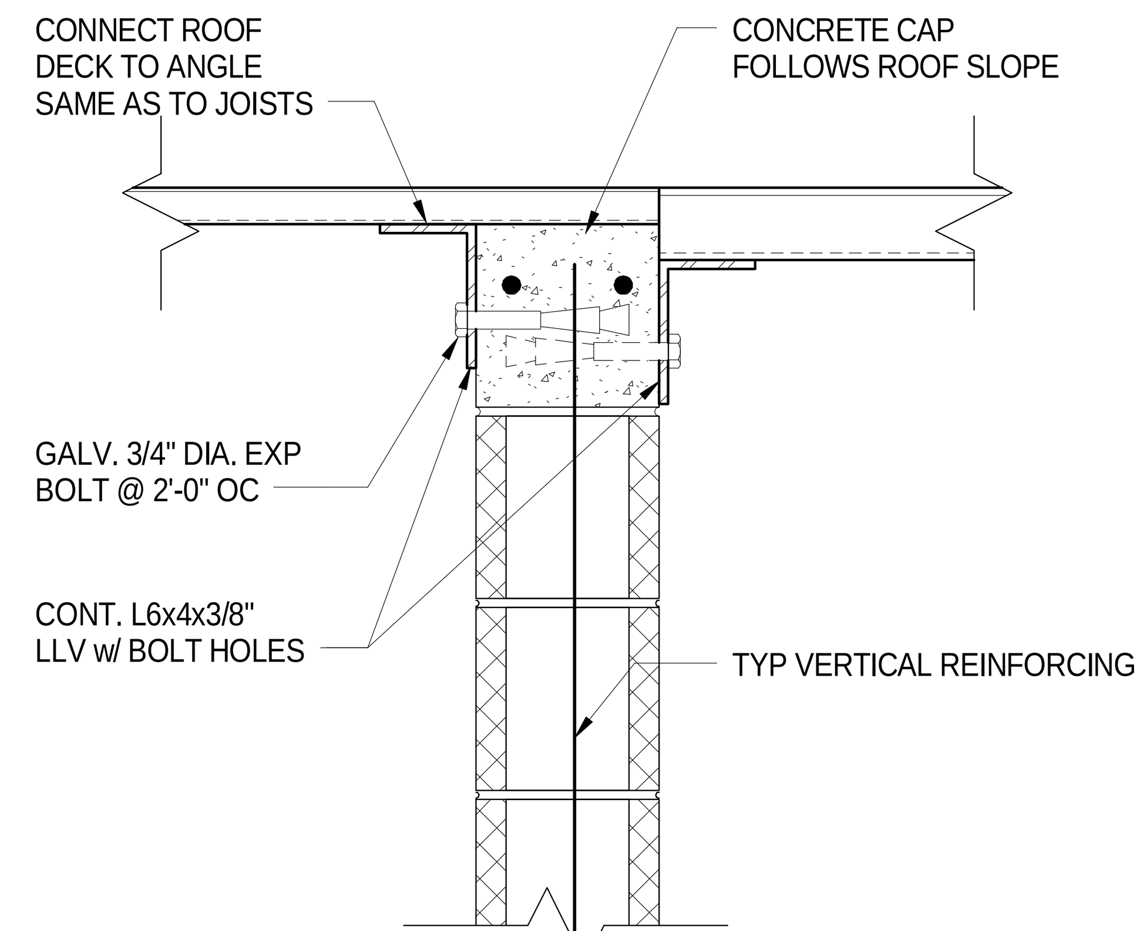


1 (S14-107) TYPICAL BEAM SLICE DETAIL

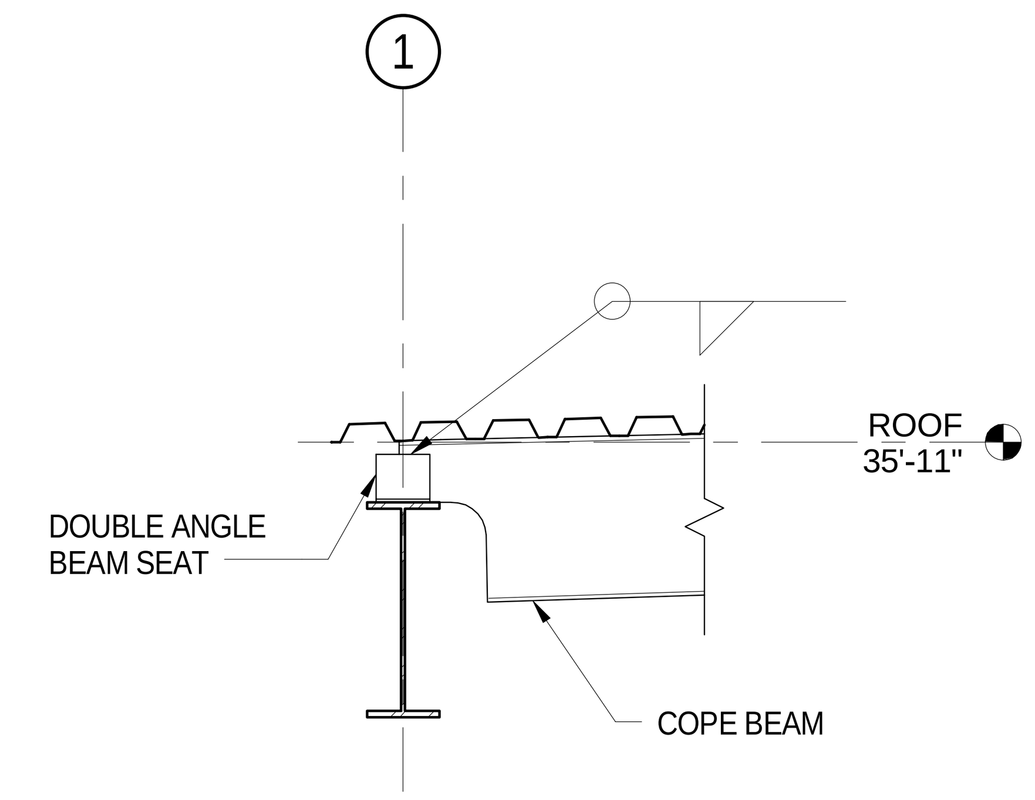
SCALE: 3/4" = 1'-0"



NOTES:
1. CONNECTION DETAIL ALSO APPLIES TO WALLS PARALLEL TO DECK SPAN.

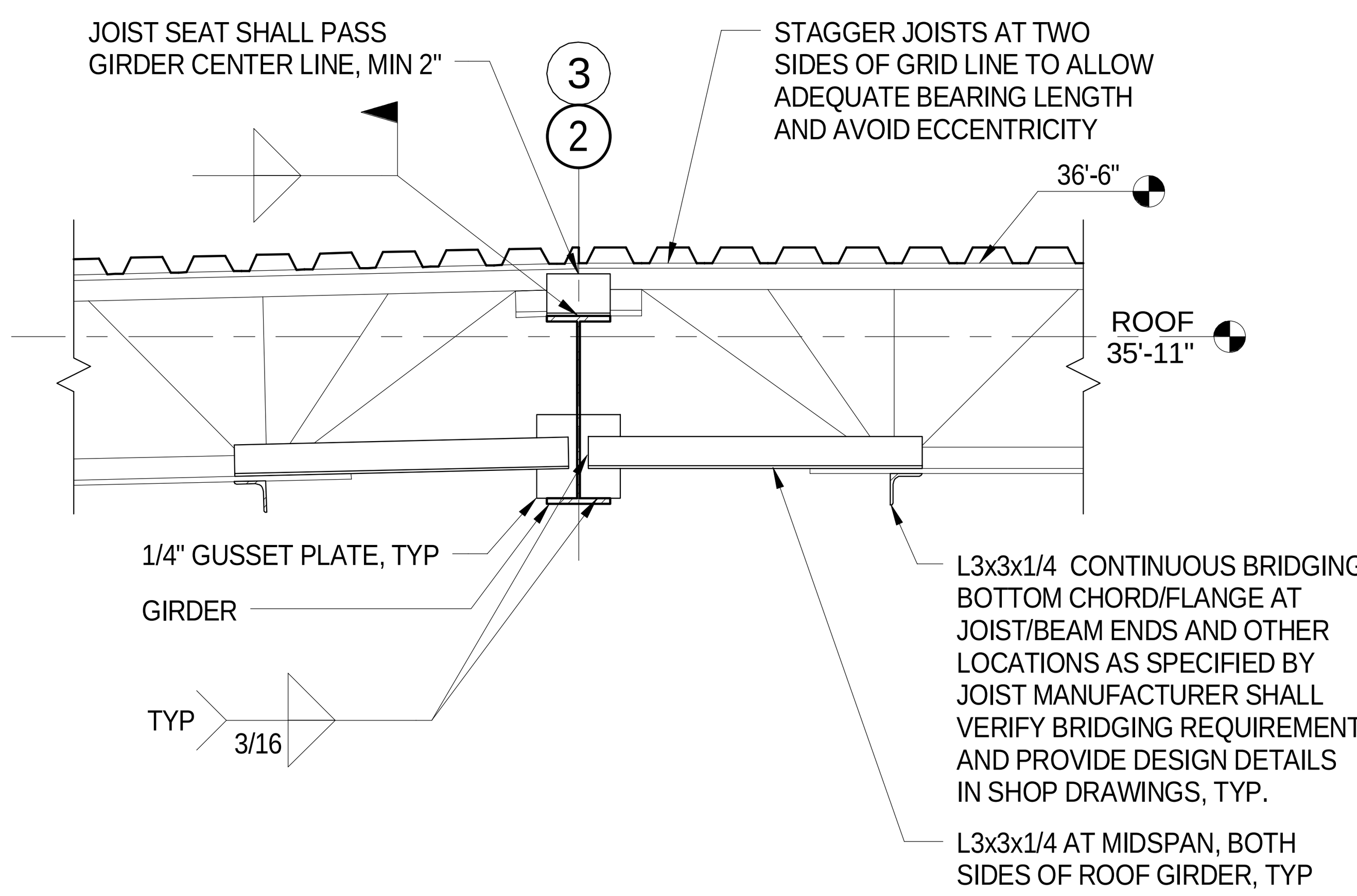
2 (S14-111) TYPICAL ROOF DECK CONNECTION TO INTERIOR SHEAR WALL

SCALE: 1 1/2" = 1'-0"



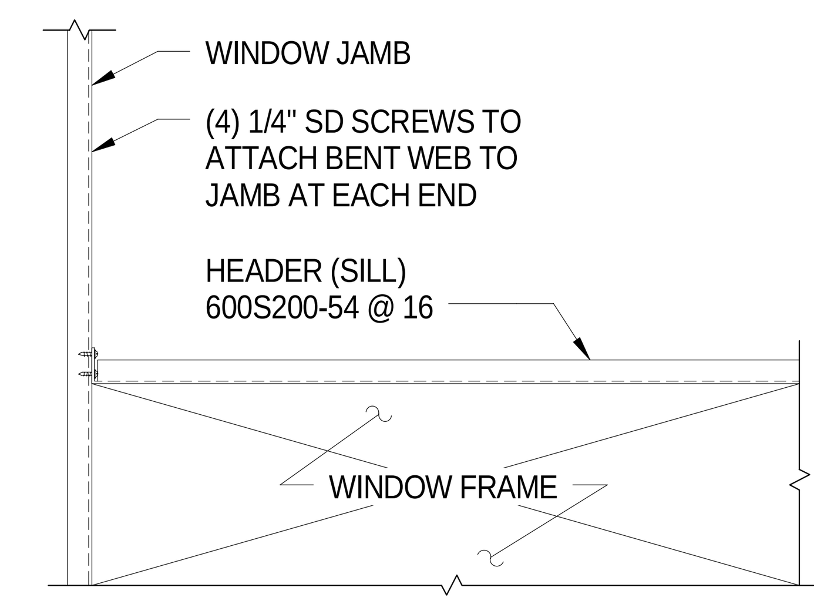
3 (S14-112) ROOF BEAM CONNECTION TO GIRDER NEAR ELEVATOR

SCALE: 3/4" = 1'-0"



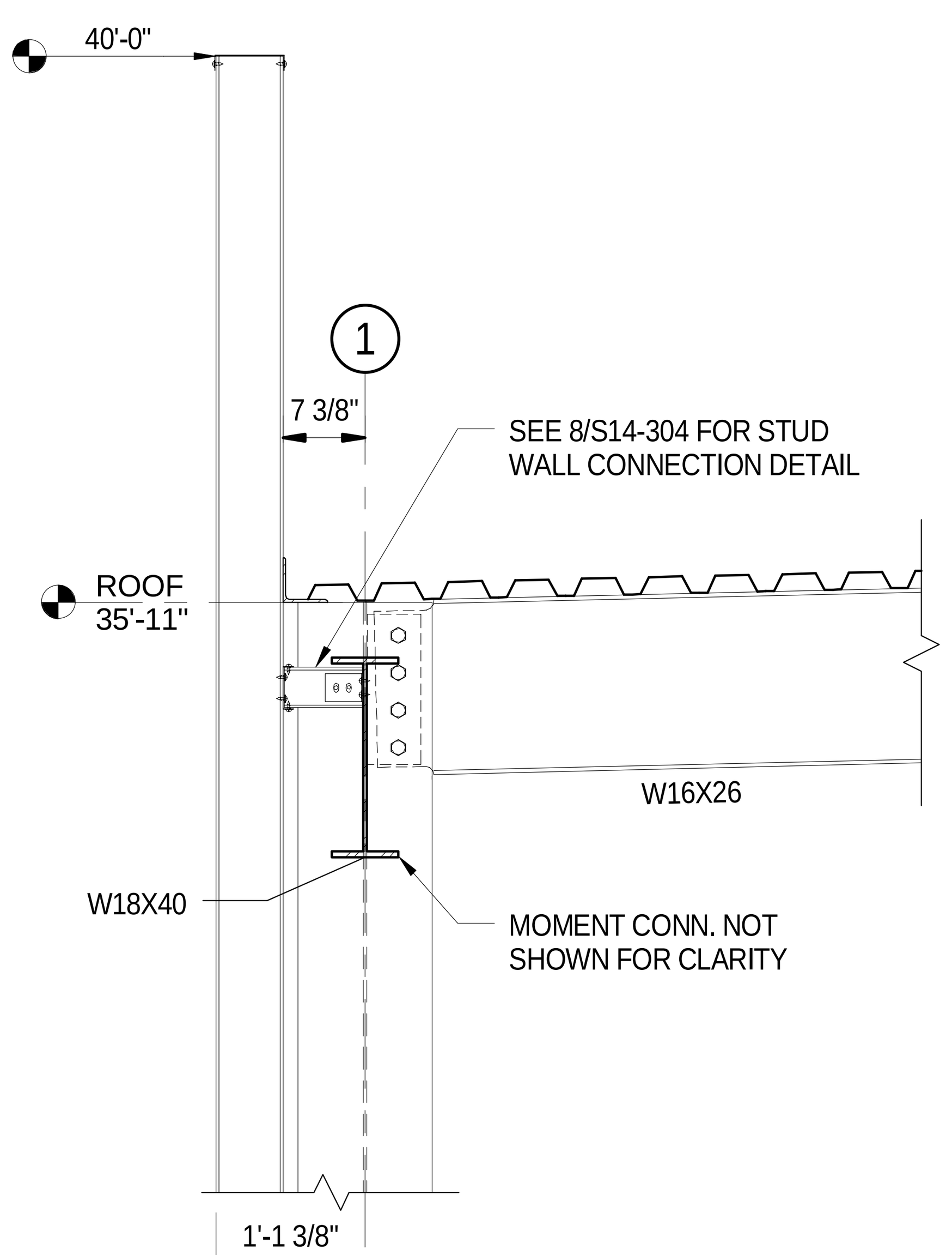
4 (S14-111) TYP ROOF GIRDER BRACING

SCALE: 3/4" = 1'-0"



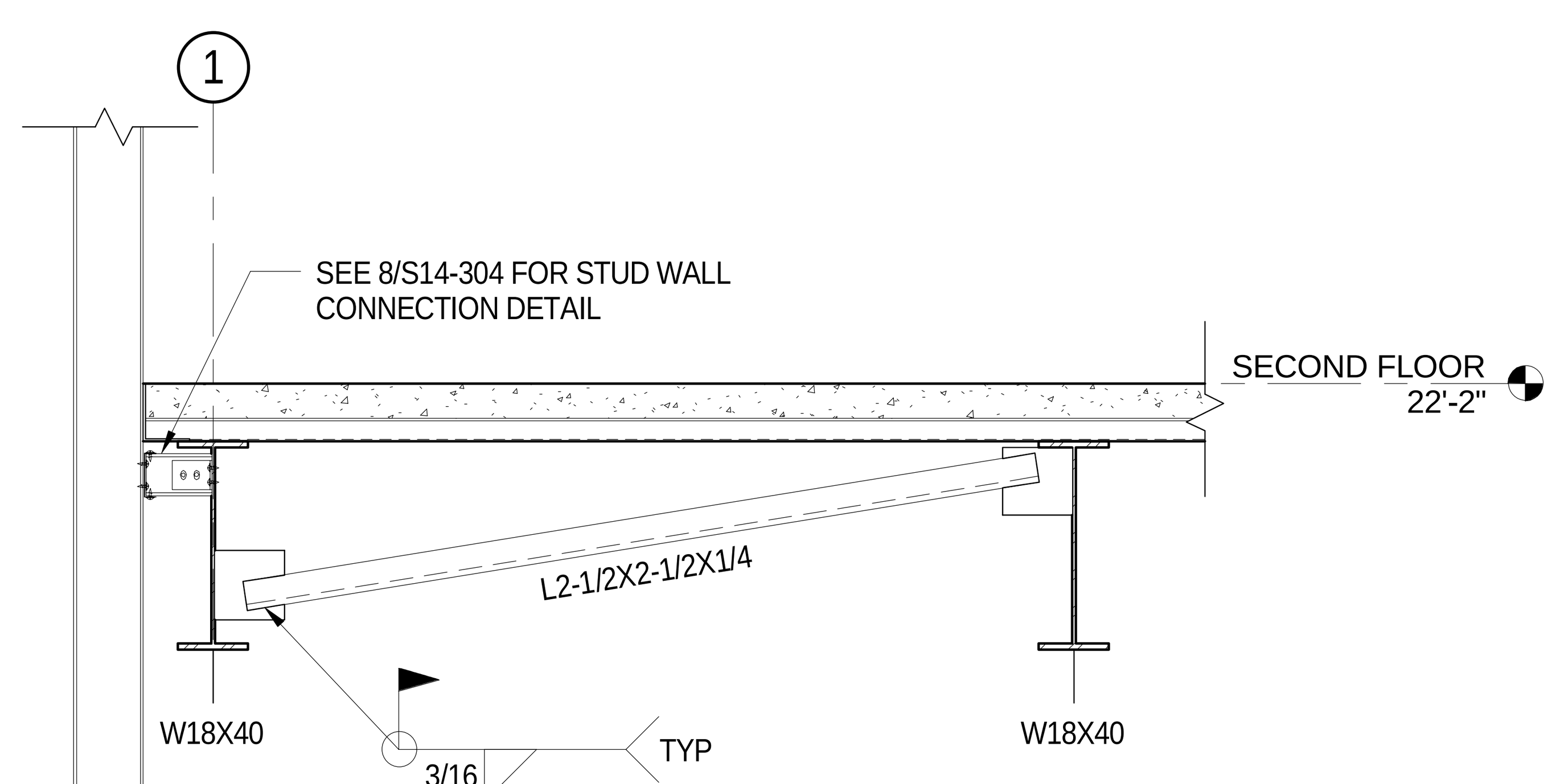
9 HEADER/SILL CONNECTION FOR WINDOW W1 & W3

SCALE: 1 1/2" = 1'-0"



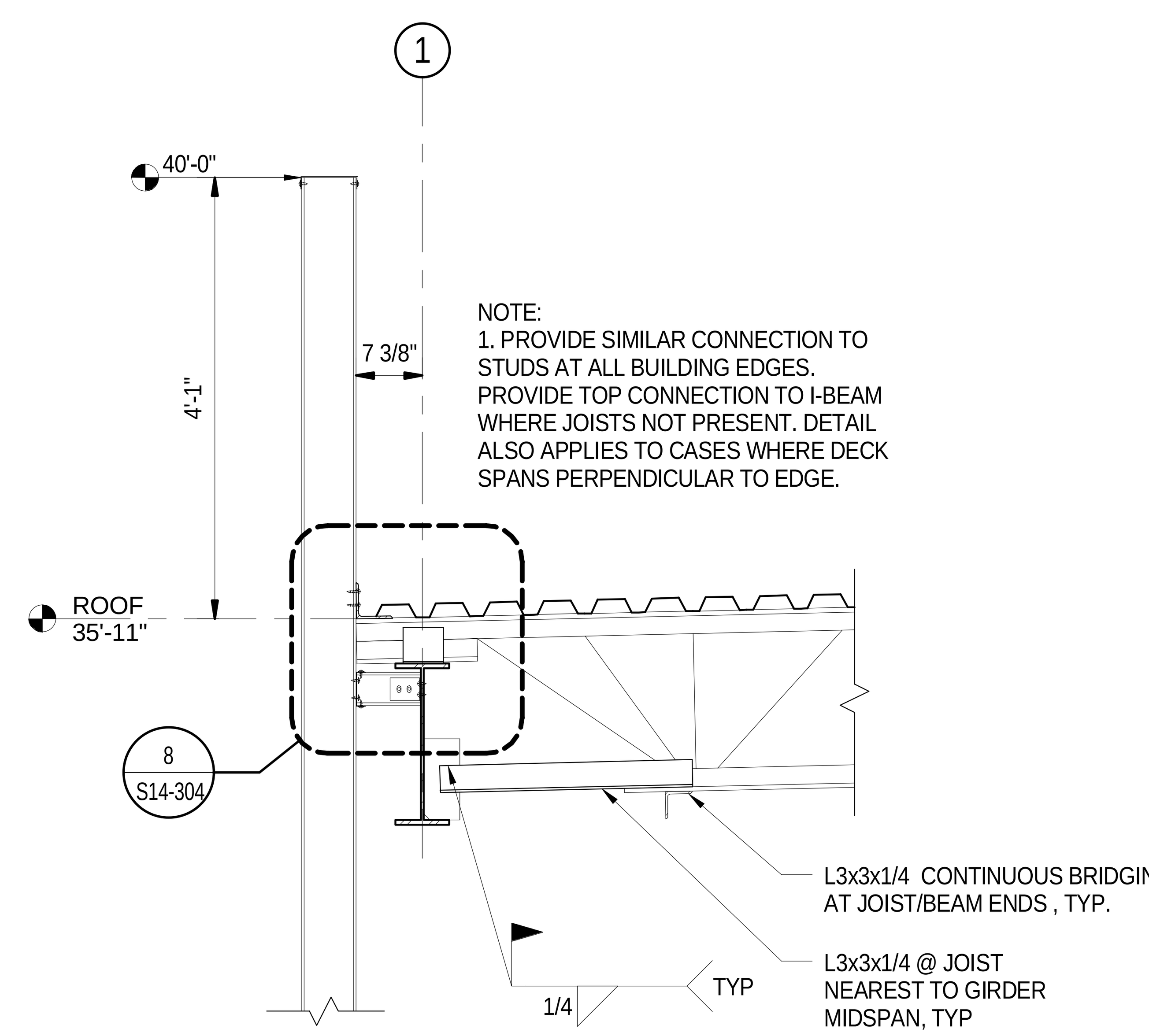
5 (S14-111) DETAIL

SCALE: 3/4" = 1'-0"



6 (S14-109) TYPICAL BOTTOM FLANGE BRACING FOR SECOND FLOOR EXTERIOR GIRDERS

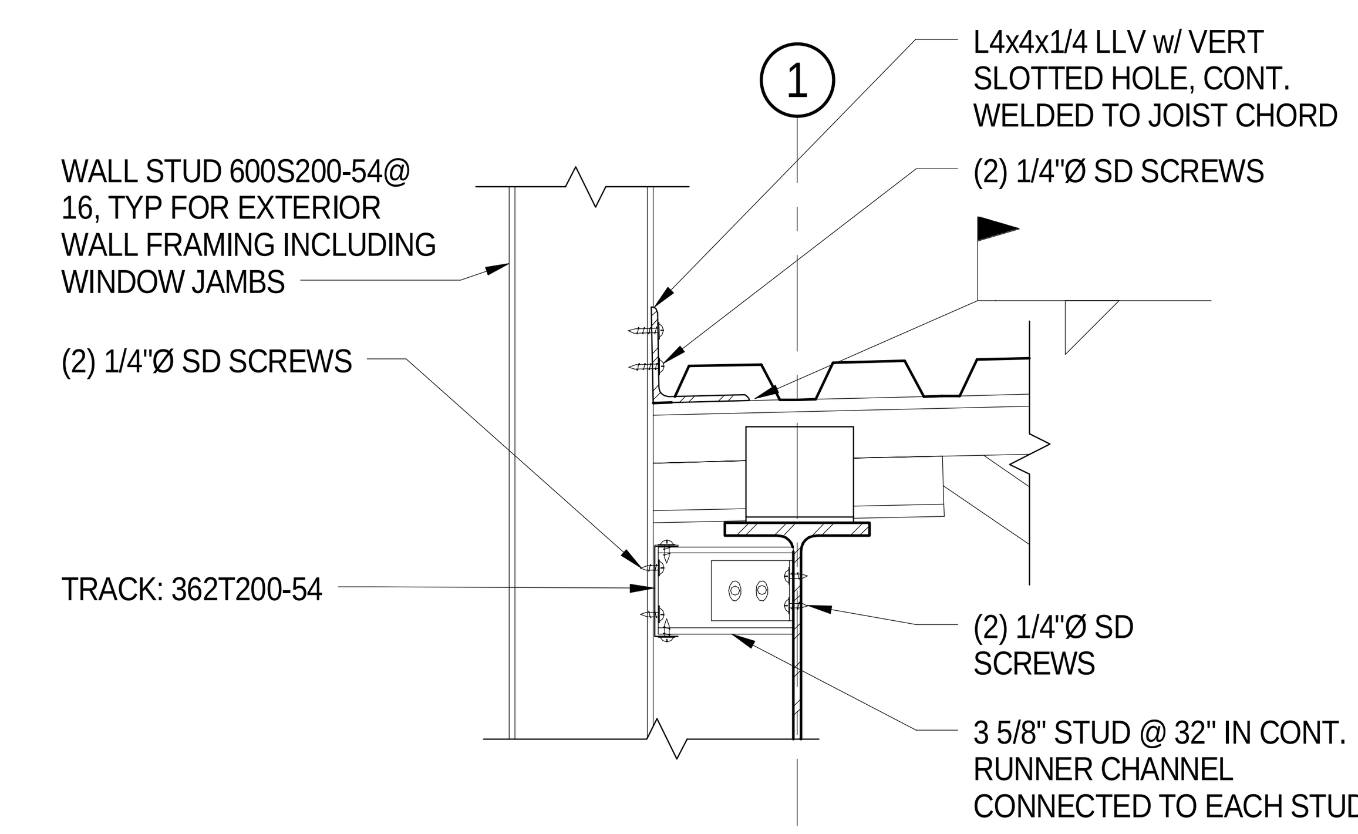
SCALE: 3/4" = 1'-0"



NOTE:
1. PROVIDE SIMILAR CONNECTION TO STUDS AT ALL BUILDING EDGES. PROVIDE TOP CONNECTION TO I-BEAM WHERE JOISTS NOT PRESENT. DETAIL ALSO APPLIES TO CASES WHERE DECK SPANS PERPENDICULAR TO EDGE.

7 (S14-111) TYPICAL STUD CONNECTION AT ROOF

SCALE: 3/4" = 1'-0"



8 (S14-304) DETAIL

SCALE: 1 1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

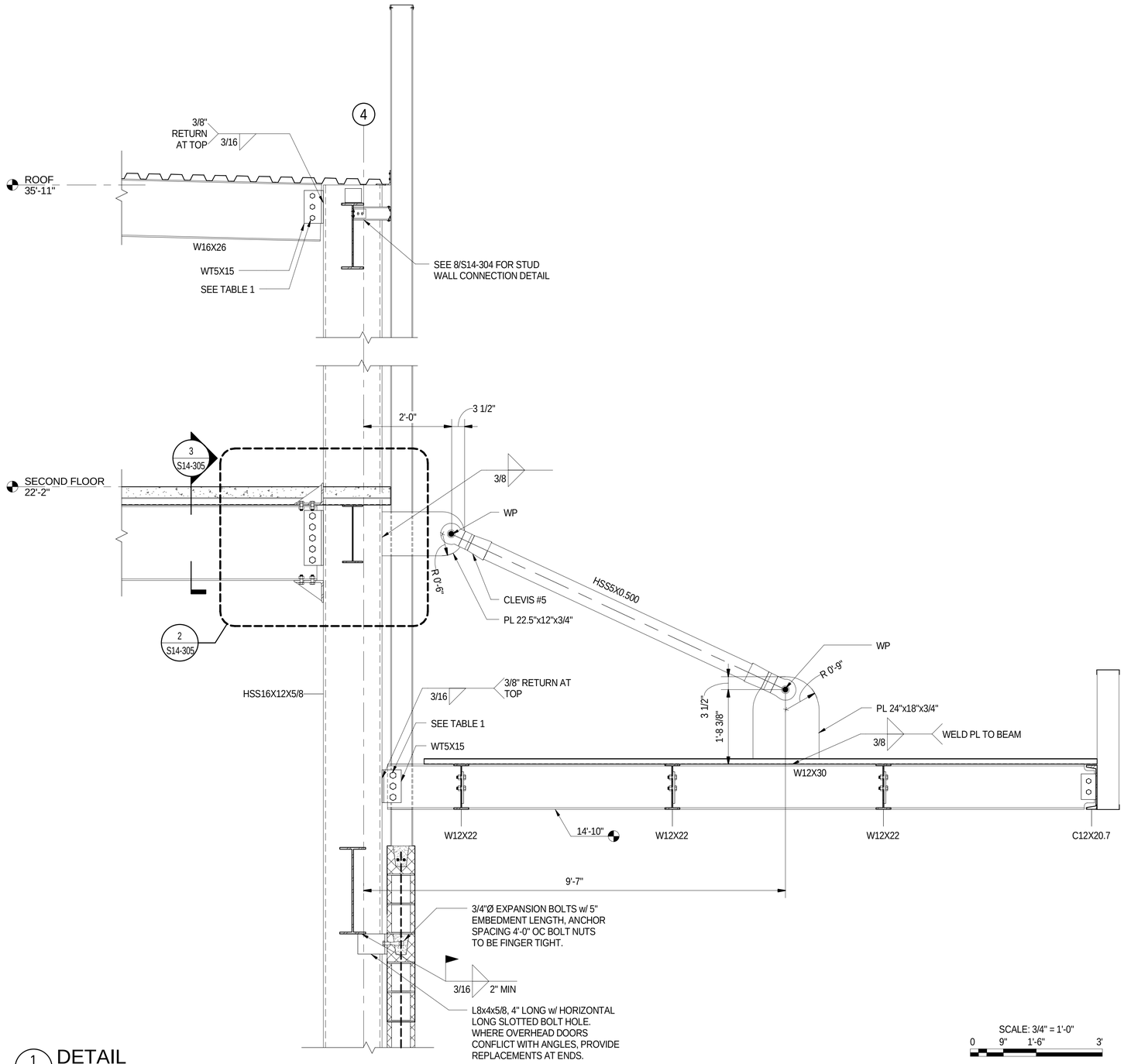
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - STEEL

PROJECT NO: 301-0124
DRAWING NO: S14-304
SHEET NO: 09.31



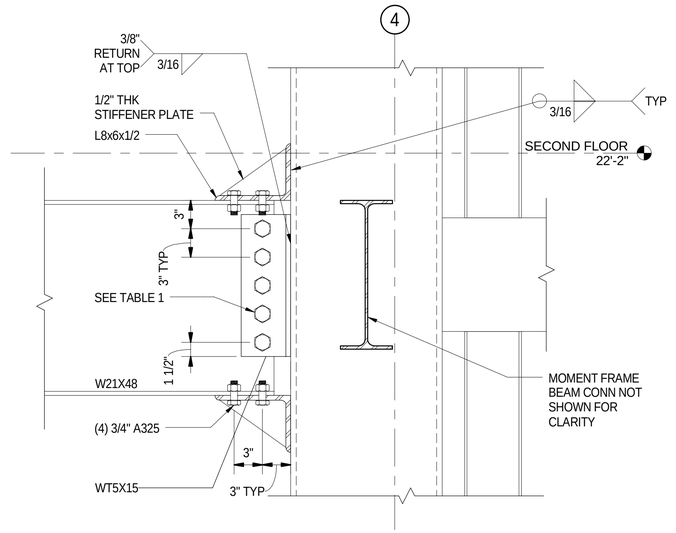
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

1 S14-107 DETAIL

TABLE 1

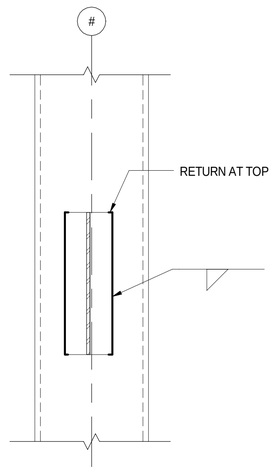
STORY	BEAM	# OF BOLTS	BOLT Ø	NOTES
ROOF	W16X26	3	3/4"	-
SECOND FLOOR	W18X40	4	1"	SLC
	W21X48	5	1"	SLC
	W27X94	4	1"	SLC
CANOPY	W12X30	3	1"	SLC
INTERMEDIATE	W18X40	3	3/4"	-
	W12X30	3	3/4"	-

NOTES:
1. USE WT5X15 FOR ALL HSS SHEAR CONNECTIONS.
2. POSITION BOLTS AS SHOWN IN 2/S14-305.



SCALE: 1 1/2" = 1'-0"
0 4" 8" 1'-4"

2 S14-305 DETAIL



SCALE: 1 1/2" = 1'-0"
0 4" 8" 1'-4"

3 S14-305 TYP WELD LIMIT OF WT

SHEET NOTES

1. GALVANIZE ALL STEEL MEMBERS EAST OF GRIDLINE 4, INCLUDING TUBINGS, CHANNELS, I-BEAMS, BOLTS, AND GUSSET PLATES. APPLY COLD GALVANIZING OVER FIELD WELDS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: TLB/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT REGISTERED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - STEEL

PROJECT NO: 301-0124
DRAWING NO: S14-305
SHEET NO: 09.32

4/2/2015 1:07:12 PM
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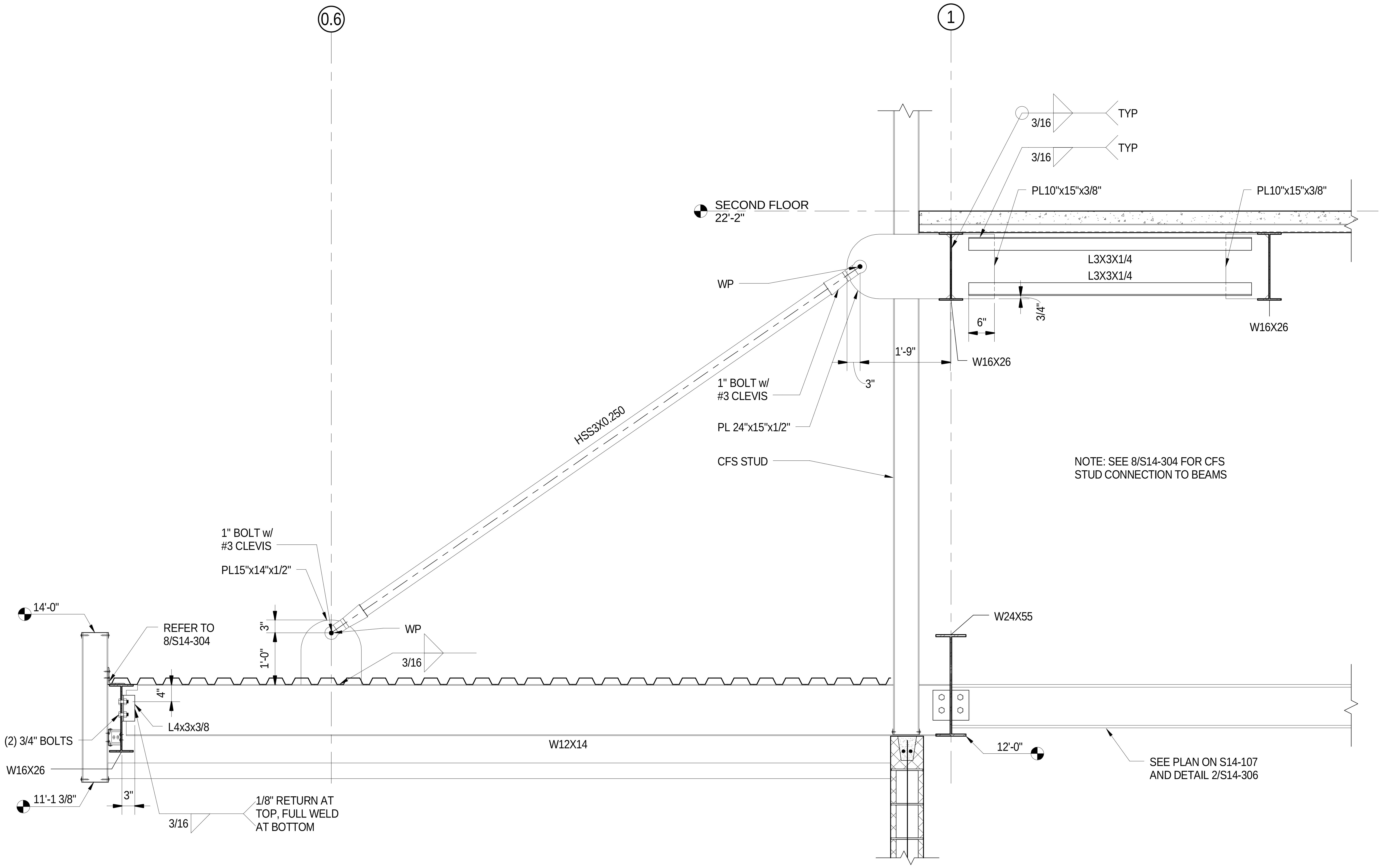
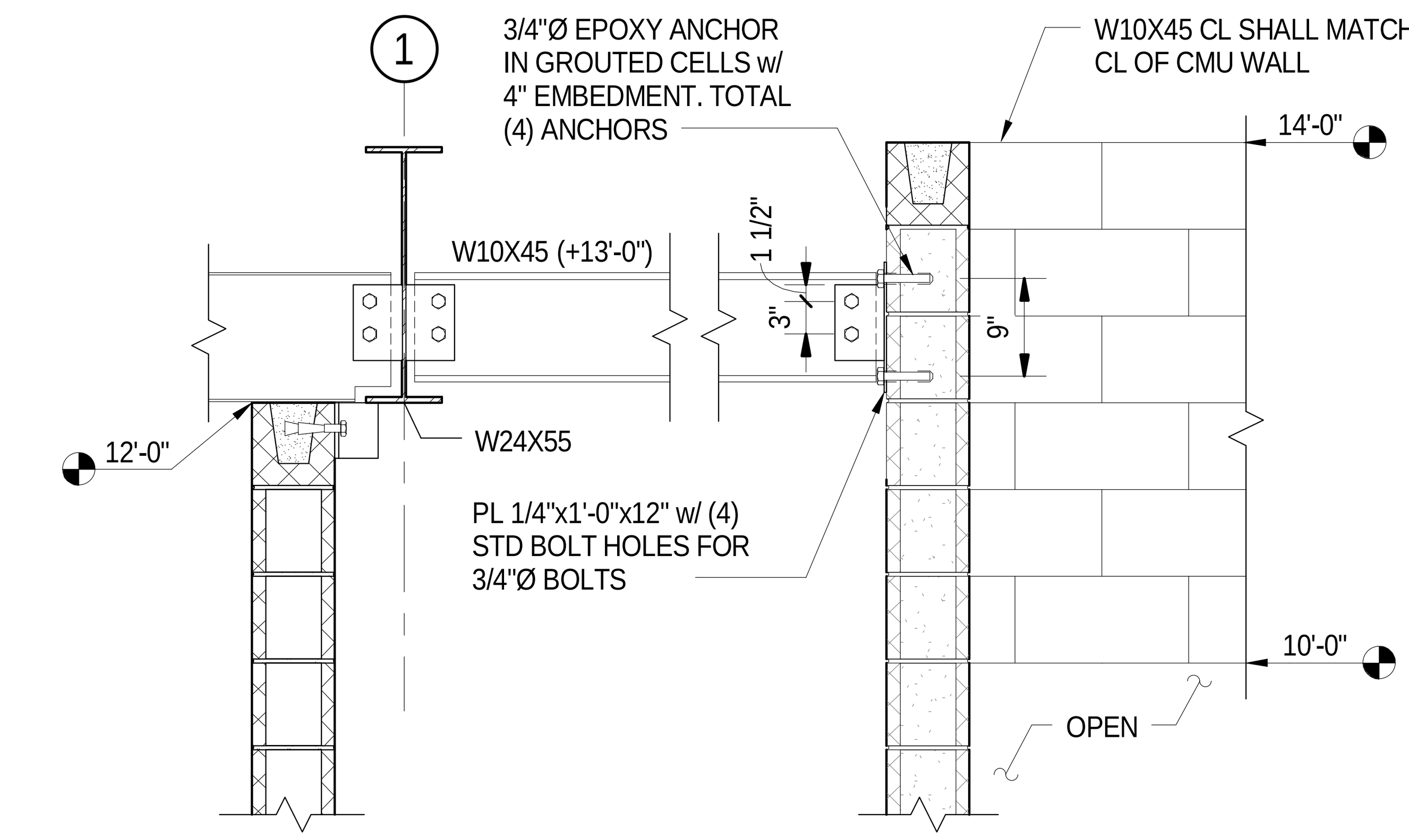
SHEET NOTES

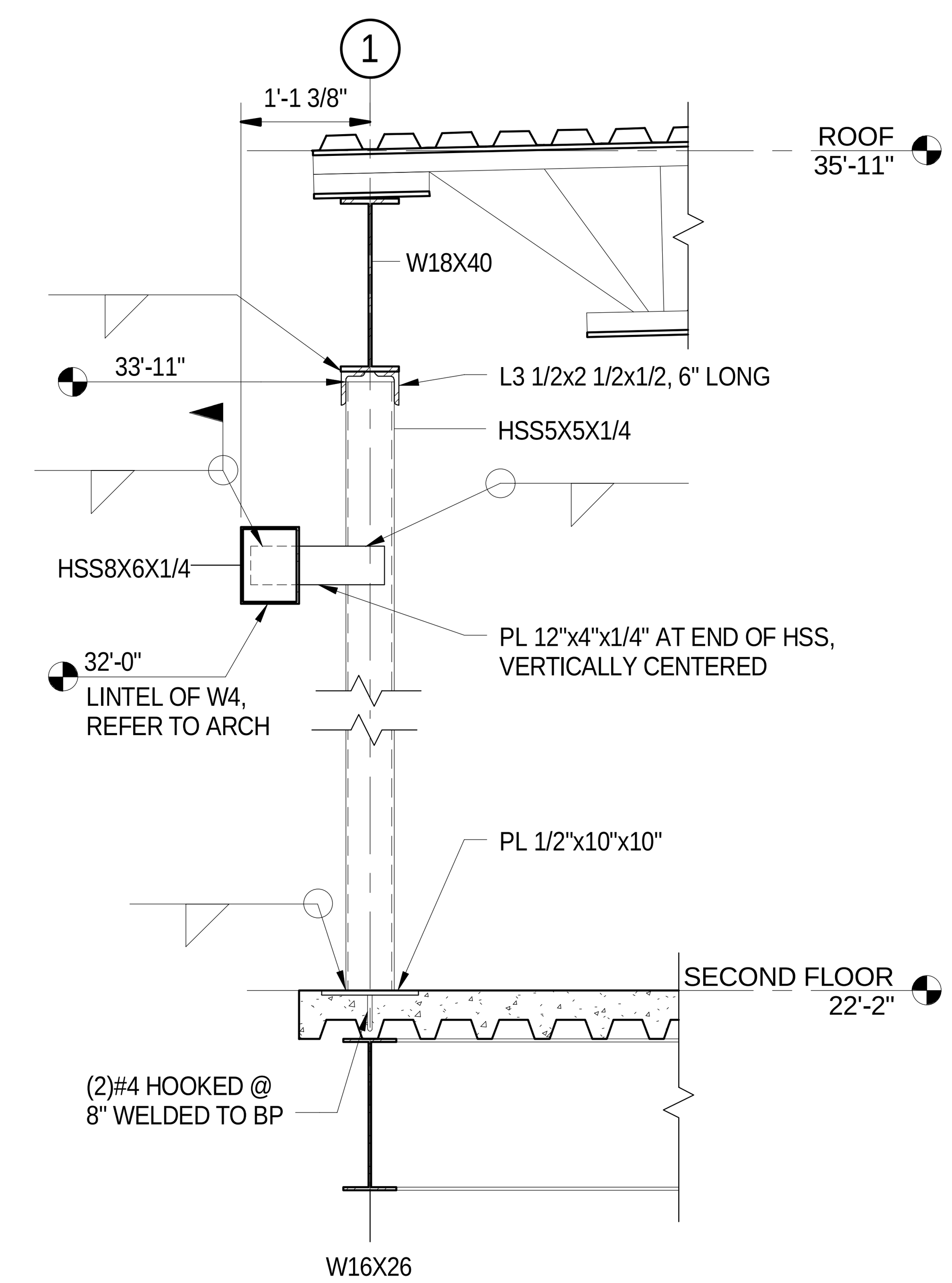
1. GALVANIZE ALL STEEL MEMBERS COMPRISING THE WESTERN CANOPY, INCLUDING TUBINGS, I-BEAMS, BOLTS, AND GUSSET PLATES. APPLY COLD GALVANIZING OVER FIELD WELDS.



1 S14-107 DETAIL
3/4" = 1'-0"



2 S14-107 DETAIL
3/4" = 1'-0"



3 S14-110 DETAIL
3/4" = 1'-0"

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/ BLOCK:
STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

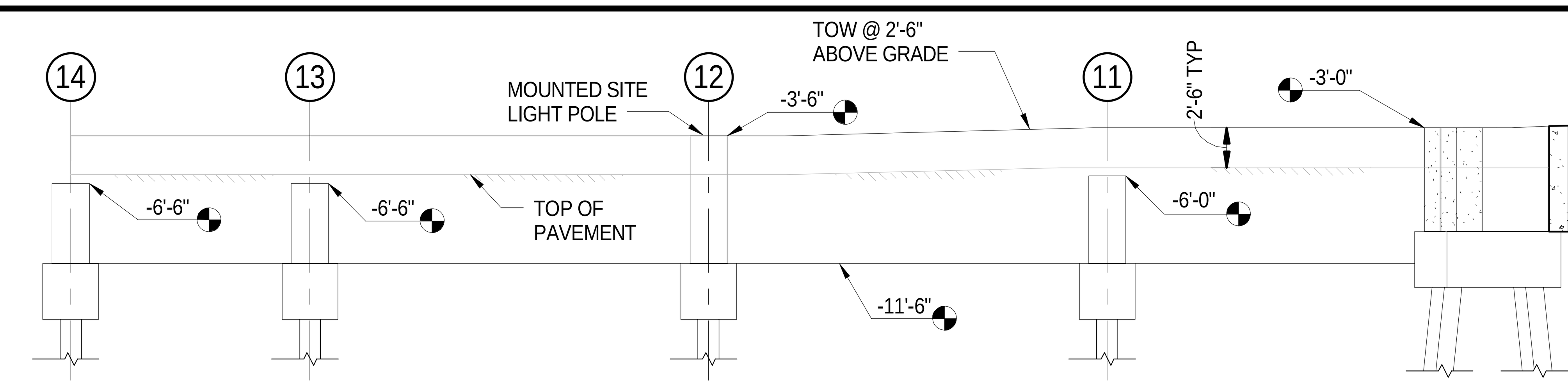
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL SECTIONS AND DETAILS - STEEL

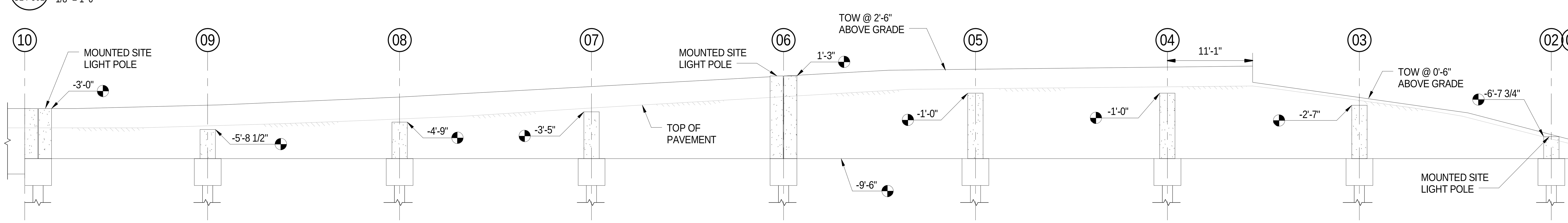
PROJECT NO: 301-0124
DRAWING NO: S14-306
SHEET NO: 09.33



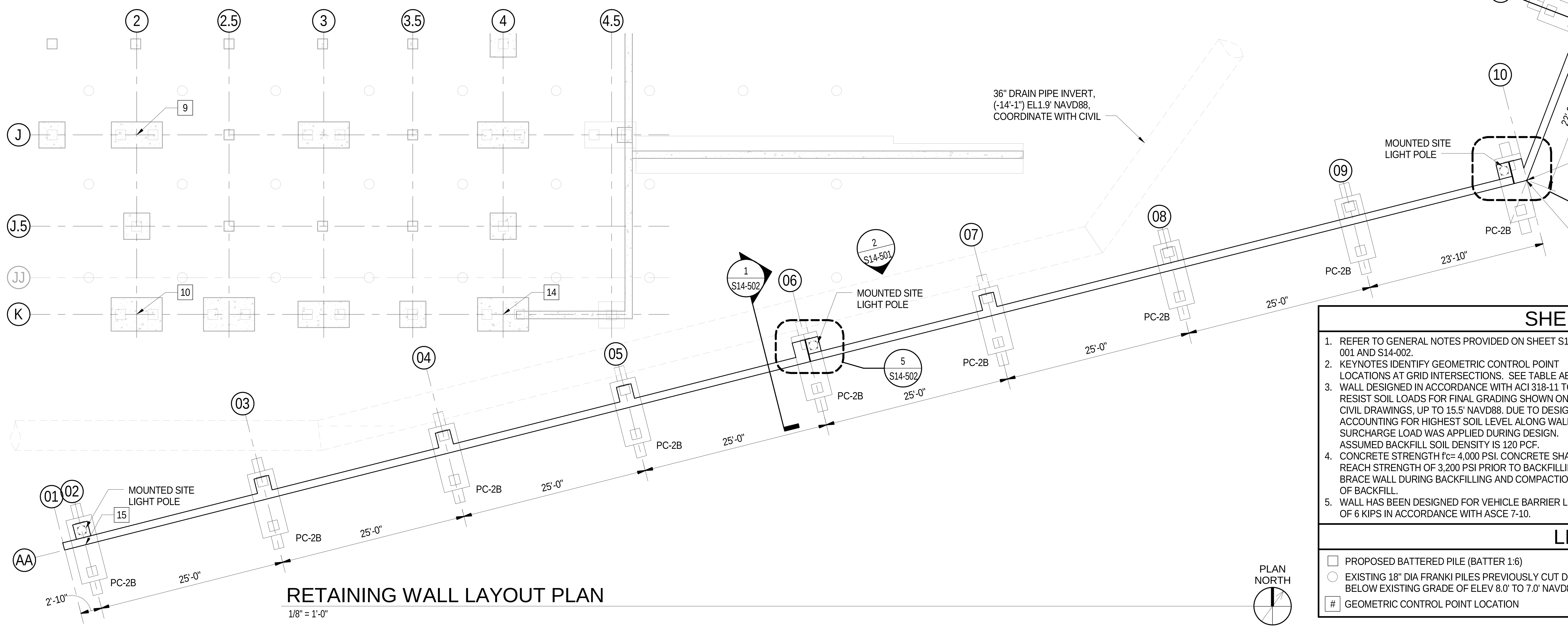
1 S14-501 WEST ELEVATION
1/8" = 1'-0"

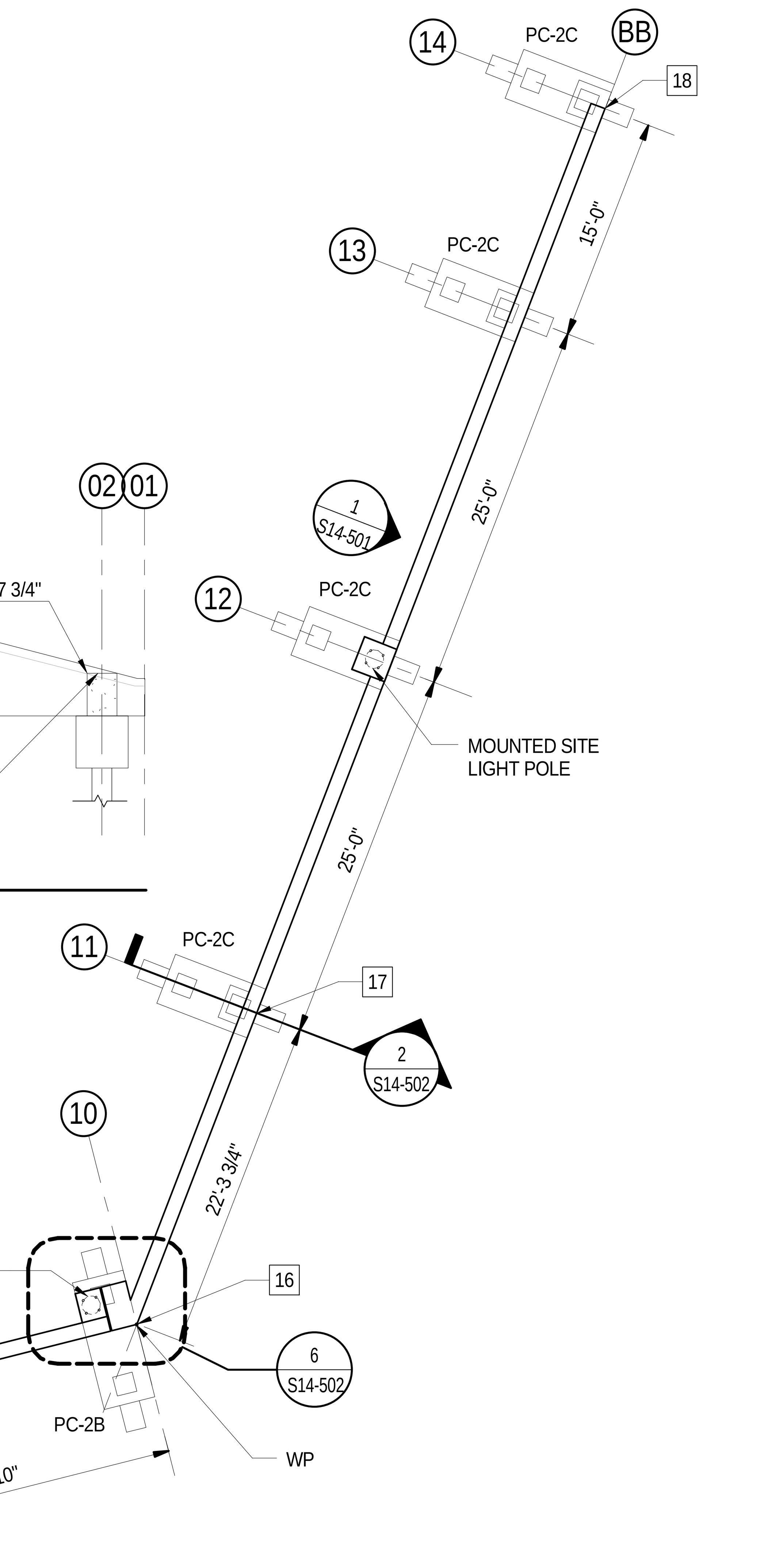
NOTES:
1. DATUM ELEVATION 0'-0" IS AT FIRST FLOOR FINISHED ELEV AT 16.00 NAVD88.
2. SEE CIVIL PLANS FOR GRADE ELEVATIONS.
3. PROVIDE CONDUIT AND MOUNTING FOR LIGHTING SEEN ON SITE ILLUMINATION PLANS. PROVIDE REFER TO S14-503 FOR DETAILS.

MOW BUILDING/RETAINING WALL GEOMETRIC CONTROL TABLE			
COLUMN LOCATION	WORK POINT NO.	NORTHING	EASTING
2/J	9	668580.29	952892.47
2/K	10	668566.19	952911.89
4/K	14	668605.83	952940.69
02/AA	15	668542.52	952932.79
10/AA	16	668727.12	953006.66
11/BB	17	668745.88	952994.52
14/BB	18	668800.43	952959.18



2 S14-501 NORTH ELEVATION
1/8" = 1'-0"





RETAINING WALL LAYOUT PLAN
1/8" = 1'-0"

SHEET NOTES

1. REFER TO GENERAL NOTES PROVIDED ON SHEET S14-001 AND S14-002.
2. KEYNOTES IDENTIFY GEOMETRIC CONTROL POINT LOCATIONS AT GRID INTERSECTIONS. SEE TABLE ABOVE.
3. WALL DESIGNED IN ACCORDANCE WITH ACI 318-11 TO RESIST SOIL LOADS FOR FINAL GRADING SHOWN ON CIVIL DRAWINGS, UP TO 15.5' NAVD88. DUE TO DESIGN ACCOUNTING FOR HIGHEST SOIL LEVEL ALONG WALL NO SURCHARGE LOAD WAS APPLIED DURING DESIGN. ASSUMED BACKFILL SOIL DENSITY IS 120 PCF.
4. CONCRETE STRENGTH f'c= 4,000 PSI. CONCRETE SHALL REACH STRENGTH OF 3,200 PSI PRIOR TO BACKFILLING. BRACE WALL DURING BACKFILLING AND COMPACTION OF BACKFILL.
5. WALL HAS BEEN DESIGNED FOR VEHICLE BARRIER LOAD OF 6 KIPS IN ACCORDANCE WITH ASCE 7-10.
6. WEEP HOLES TO BE PROVIDED, CENTERED BETWEEN EACH GRIDLINE.
7. PRIOR TO DRIVING THE PILES THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL HIS METHOD AND SEQUENCE OF PILE DRIVING.
8. THE ESTIMATED LENGTH OF PILES IN THE RETAINING WALL:
   NORTH ELEVATION IS 71FT
   WEST ELEVATION IS 69FT
9. THE NUMBER OF PILES IN THE RETAINING WALL:
   NORTH ELEVATION IS 18
   WEST ELEVATION IS 8
10. MAXIMUM DESIGN LOAD:
    65 TONS (ASCE 7-10 LRFD 2)
11. ULTIMATE PILE CAPACITY = 100 TONS

LEGEND

- ☐ PROPOSED BATTERED PILE (BATTER 1:6)
- ○ EXISTING 18" DIA FRANKI PILES PREVIOUSLY CUT DOWN TO 1'-0" (±) BELOW EXISTING GRADE OF ELEV 8.0' TO 7.0' NAVD88
- # GEOMETRIC CONTROL POINT LOCATION

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK:
STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL RETAINING WALL LAYOUT

PROJECT NO: 301-0124
DRAWING NO: S14-501
SHEET NO: 09.34

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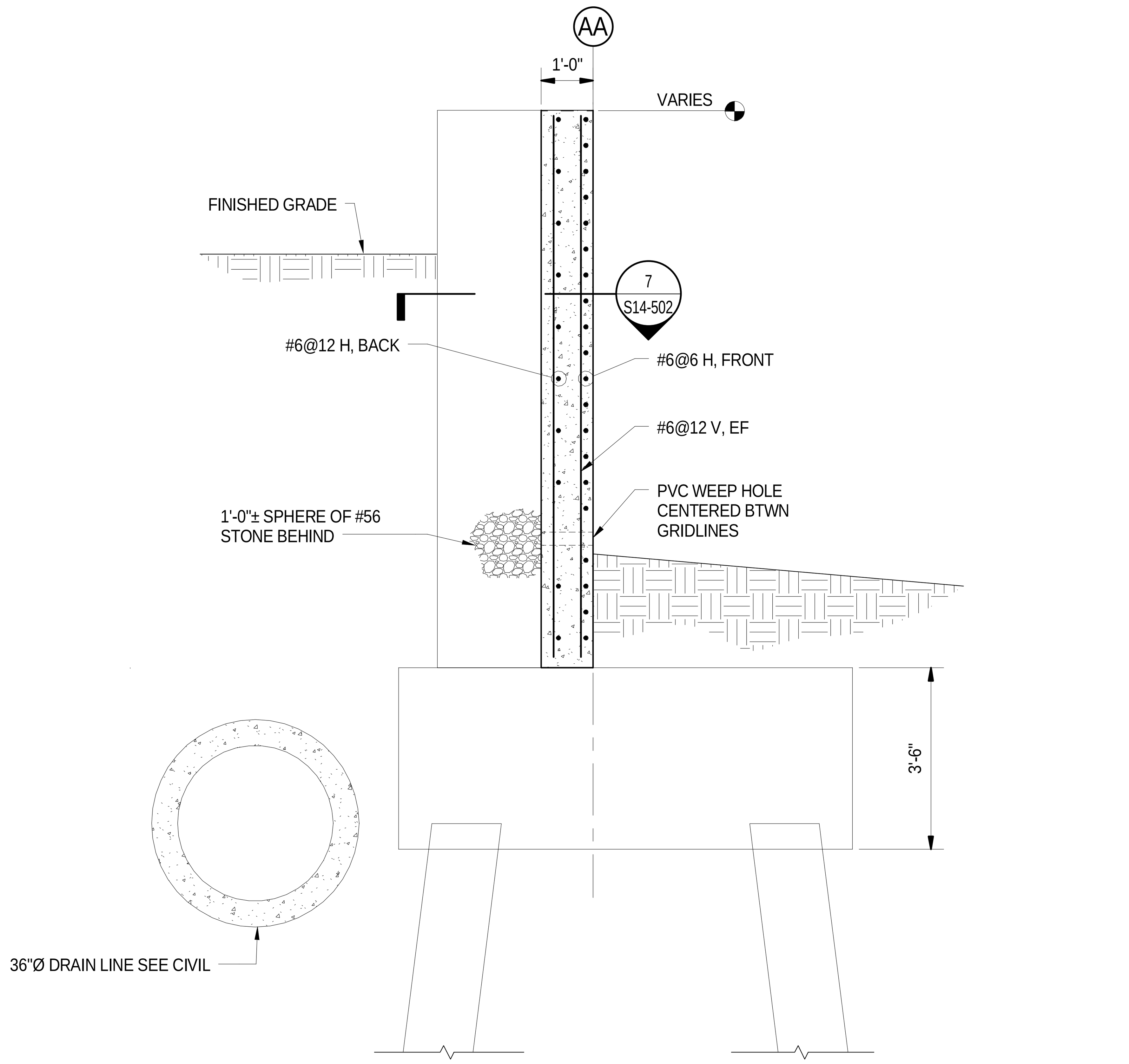
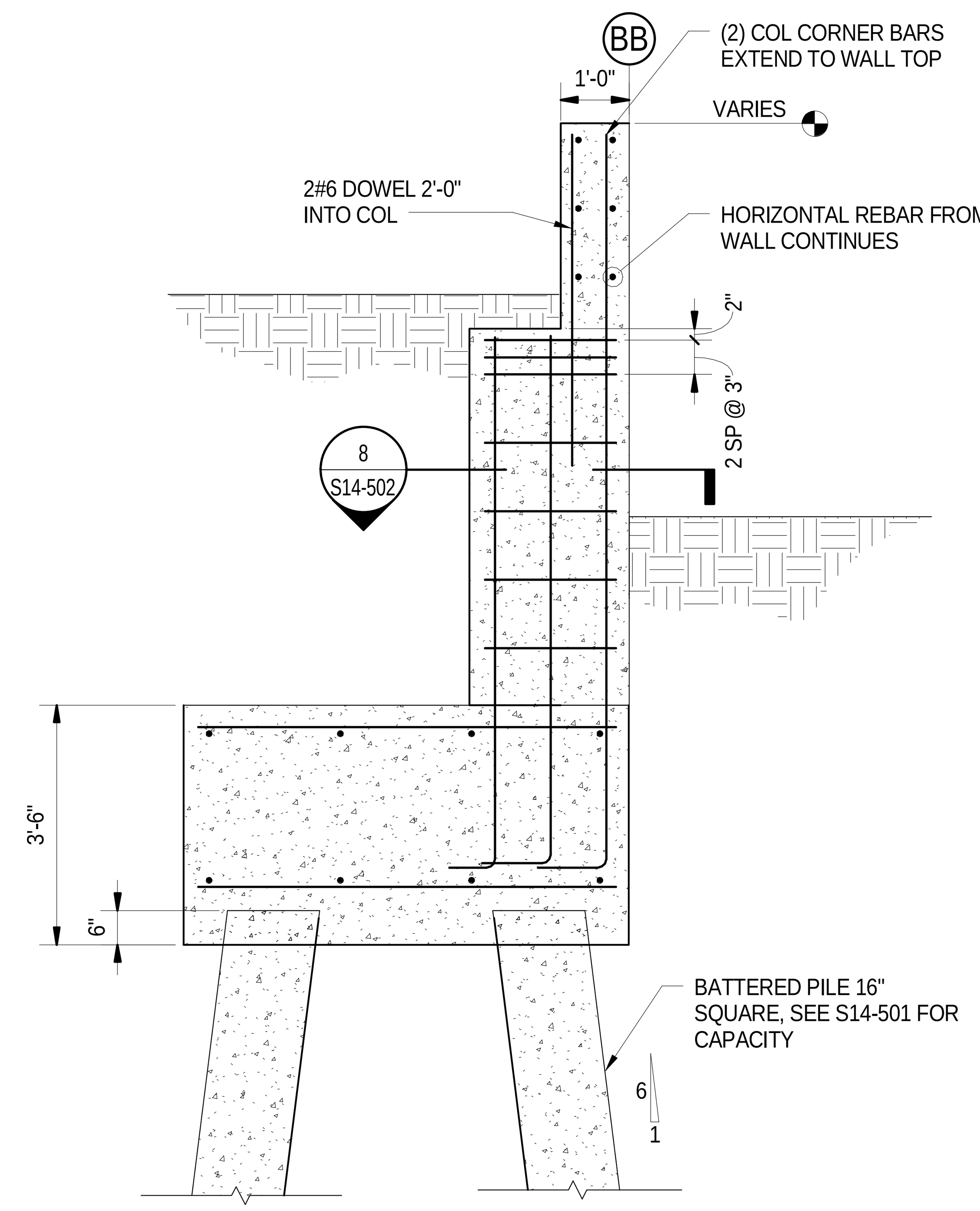


1 (S14-501) DETAIL
1/2" = 1'-0"



2 (S14-501) DETAIL
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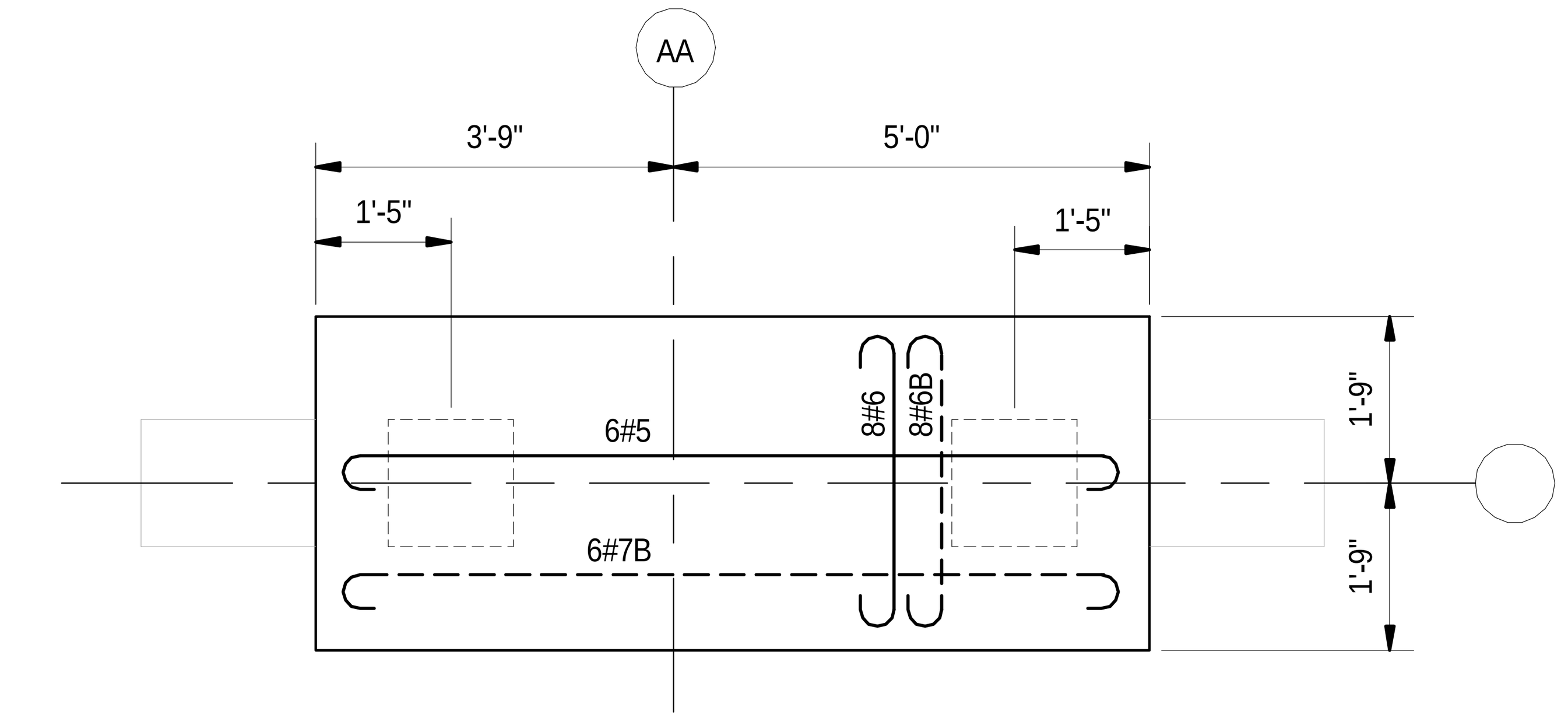
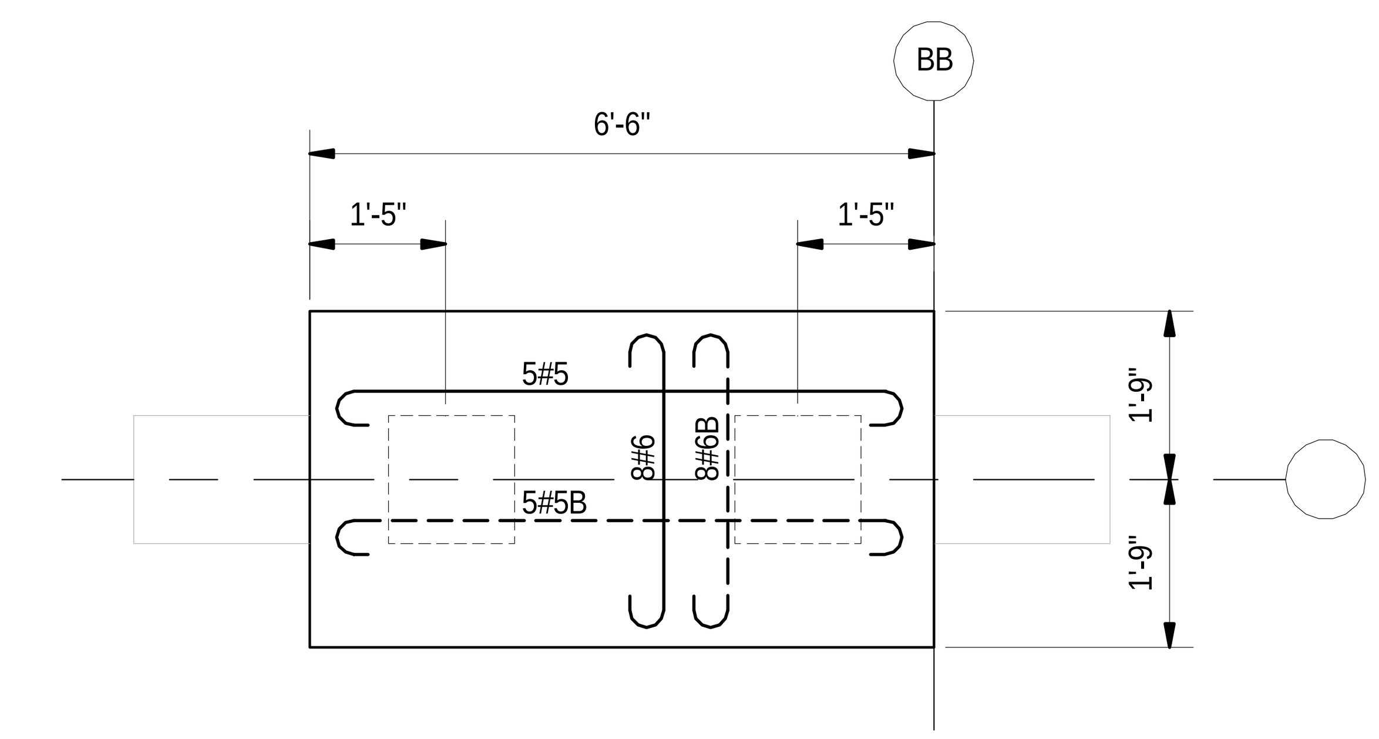
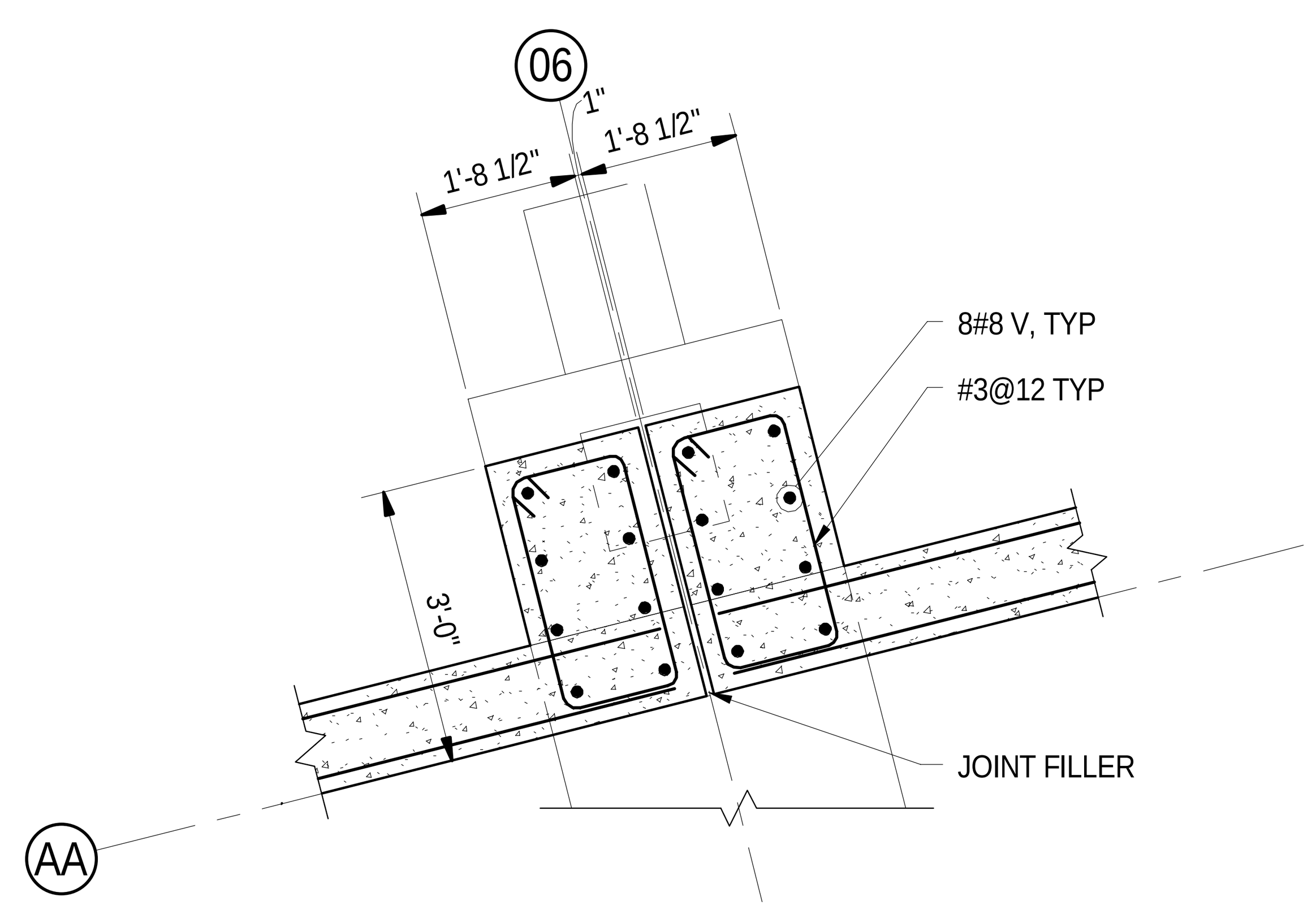


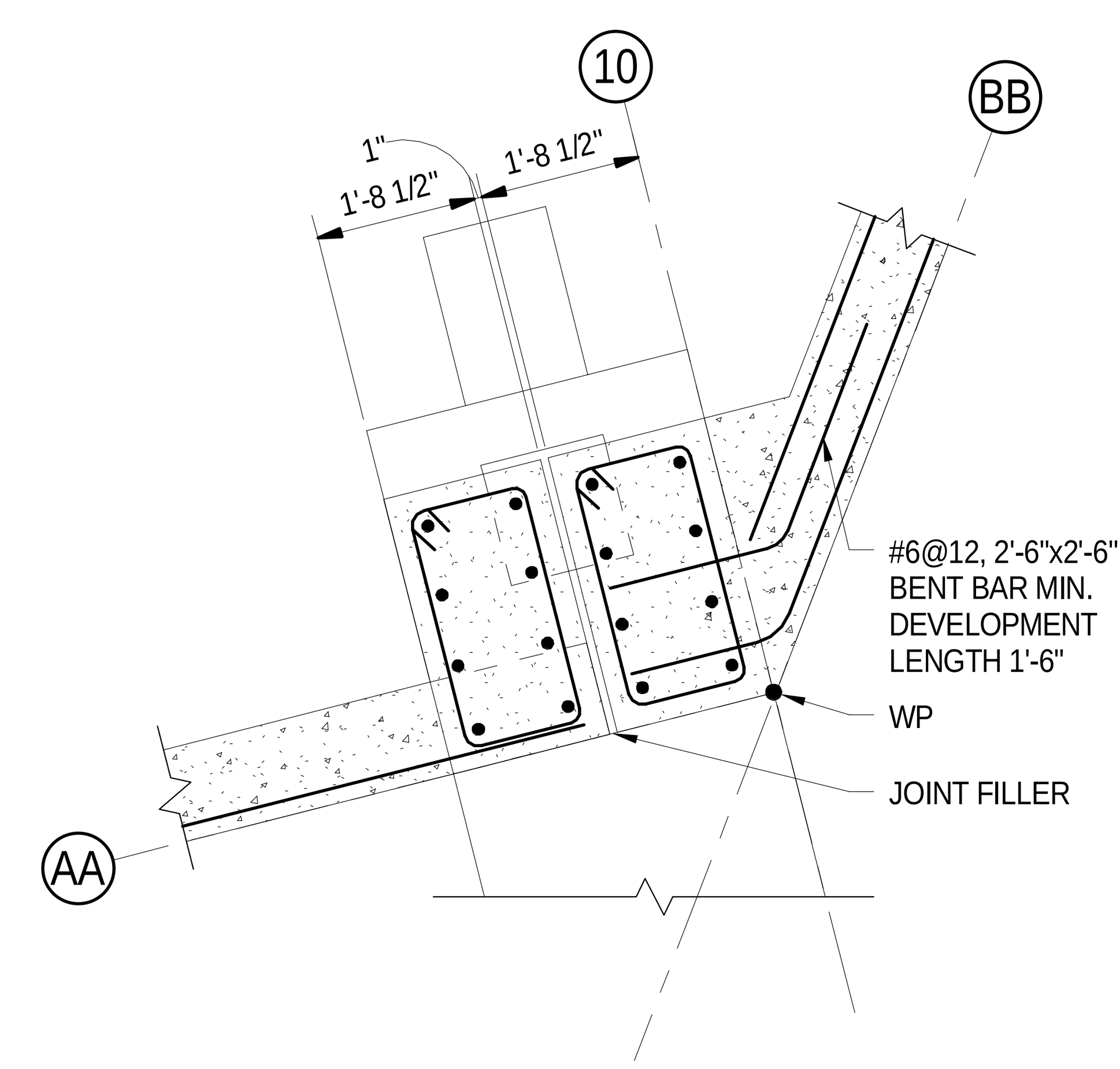
3 PC2B
1/2" = 1'-0"



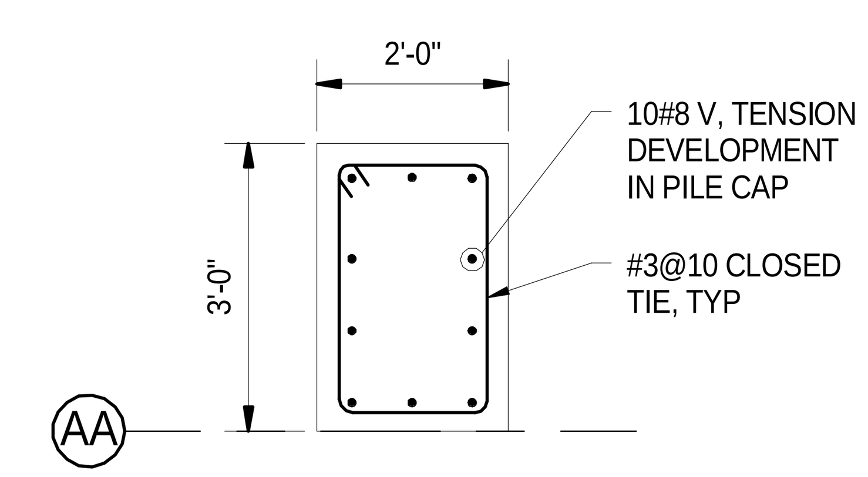
4 PC2C
1/2" = 1'-0"



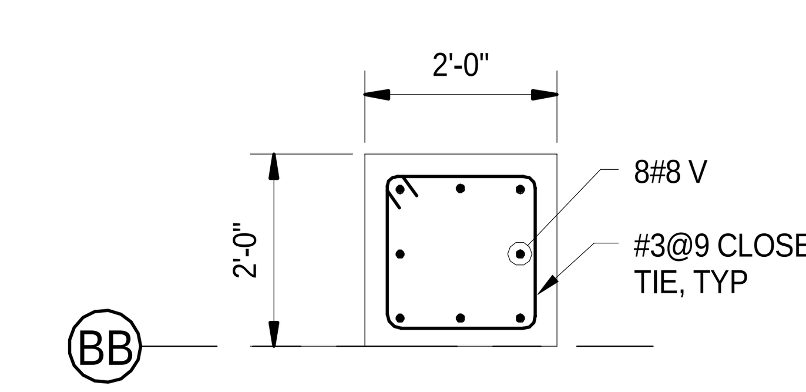
5 (S14-501) DETAIL
1/2" = 1'-0"



6 (S14-501) DETAIL
1/2" = 1'-0"



7 (S14-502) DETAIL
1/2" = 1'-0"



8 (S14-502) DETAIL
1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 1/16/15

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT — WEIYING S CHIANG — No. 29848 — LICENSED PROFESSIONAL ENGINEER

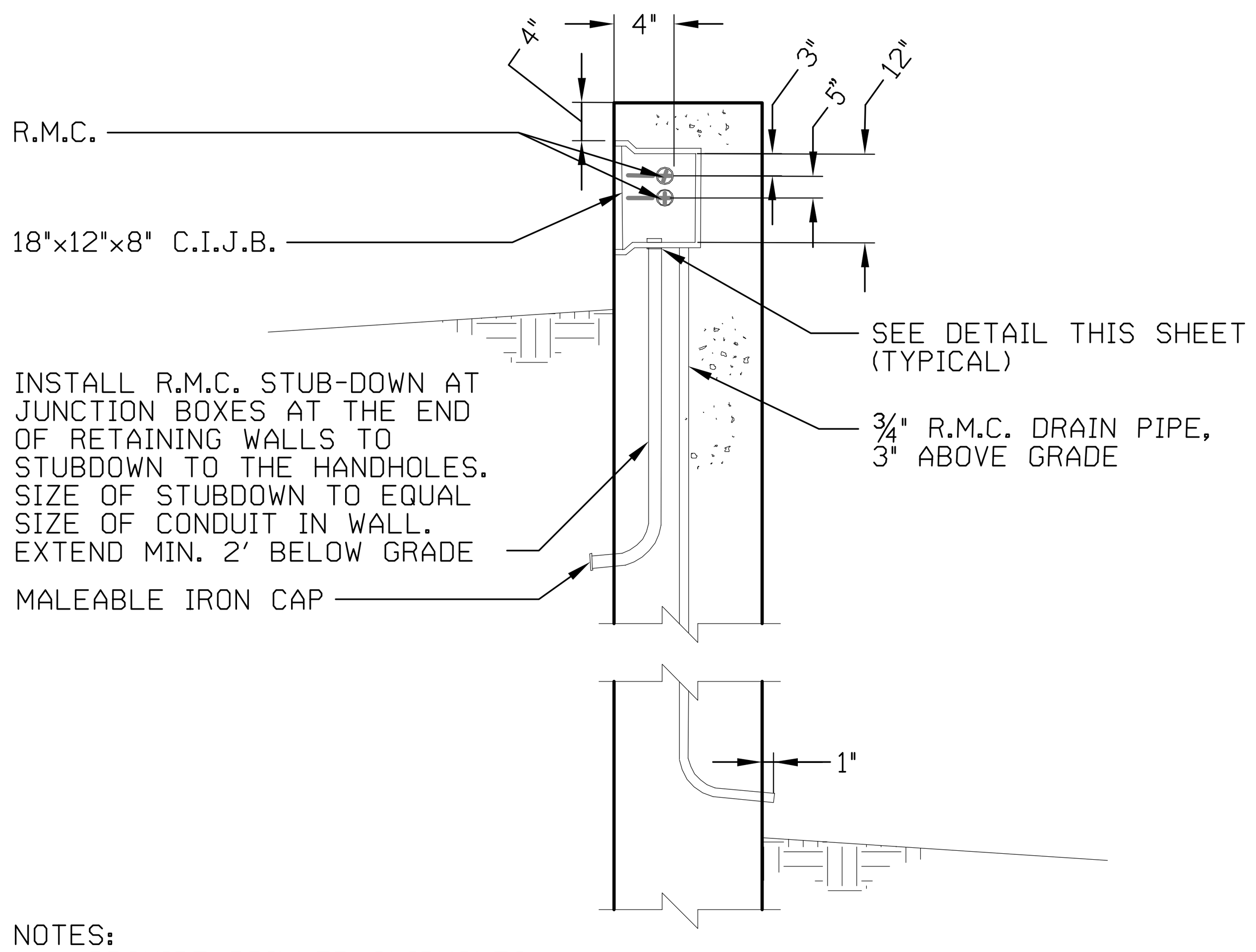
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL RETAINING WALL DETAILS

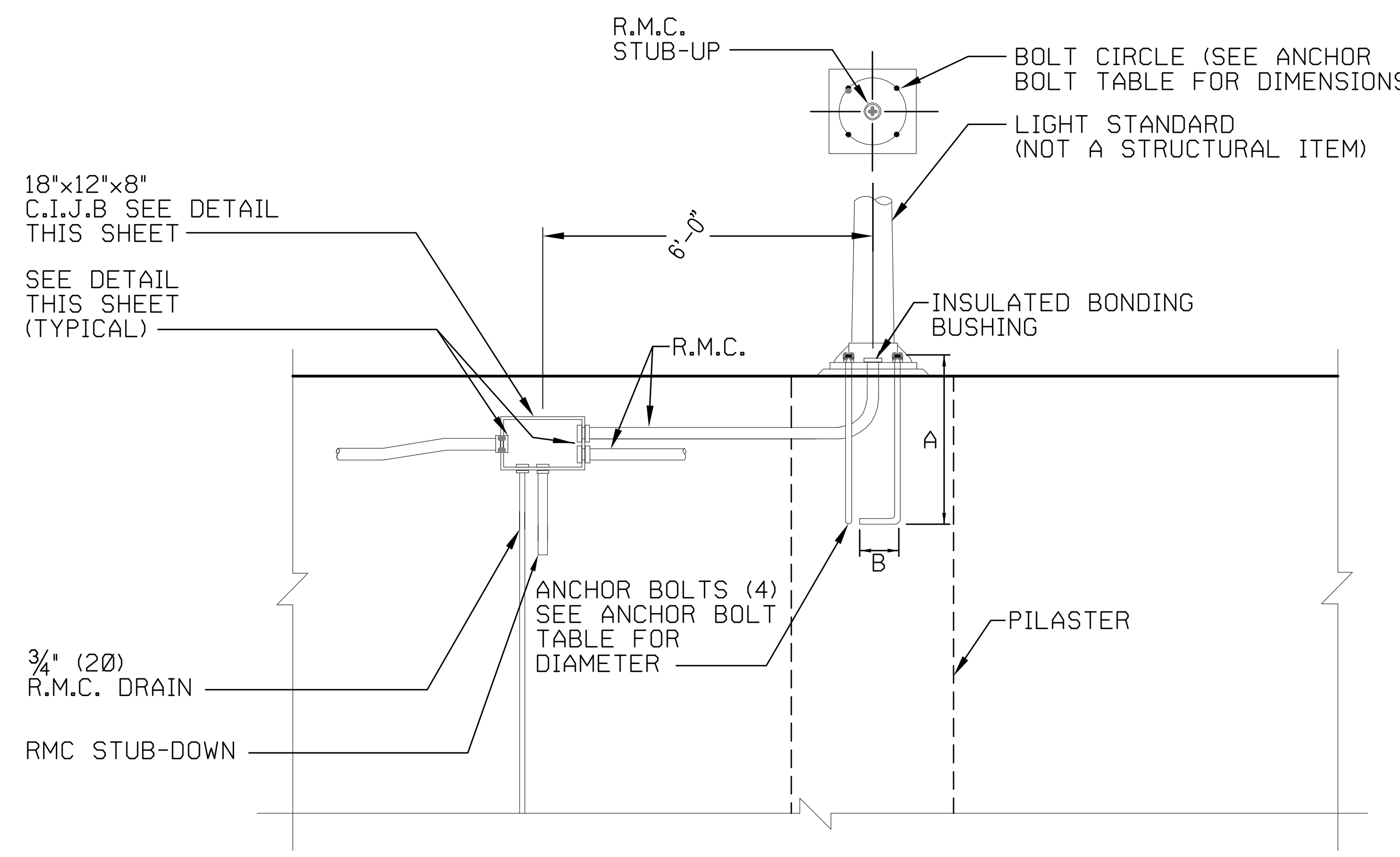
PROJECT NO: 301-0124
DRAWING NO: S14-502
SHEET NO: 09.35



NOTES:

1. PROVIDE DRILLED SLIPHOLES IN C.I.J.B. FOR R.M.C. AS REQUIRED
2. CONDUIT BENDS SHALL HAVE A RADIUS OF NOT LESS THAN 6 TIMES THE TRADE SIZE OF THE CONDUIT

JUNCTION BOX INSTALLATION



LIGHT STANDARD ON RETAINING WALL

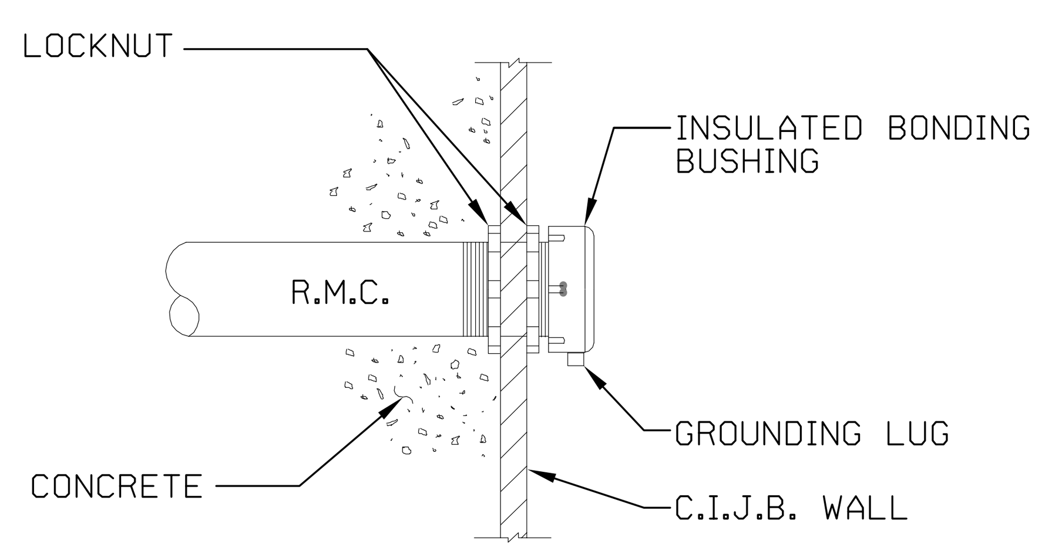
NOTES:

1. SEE RETAINING WALL PLANS FOR SPECIFIC CONSTRUCTION DETAILS AND LOCATIONS.
2. DIAMETER OF RIGID METAL CONDUIT SHALL BE AS CALLED FOR ON SITE ILLUMINATION PLANS.
3. R.M.C. STUB-UPS TO LIGHT STANDARDS SHALL BE OF THE SAME DIAMETER AS THE R.M.C. CAST IN THE WALL.
4. STUB-DOWNS SHALL BE INSTALLED WHERE INDICATED ON THE PLANS.
5. DETAILS ON THIS SHEET HAVE BEEN TAKEN FROM THE CTDOT OFFICE OF ENGINEERING SHEETS ENTITLED "CONDUIT EXPANSION FITTINGS" AND "STRUCTURE RELATED ELECTRICAL DETAILS".

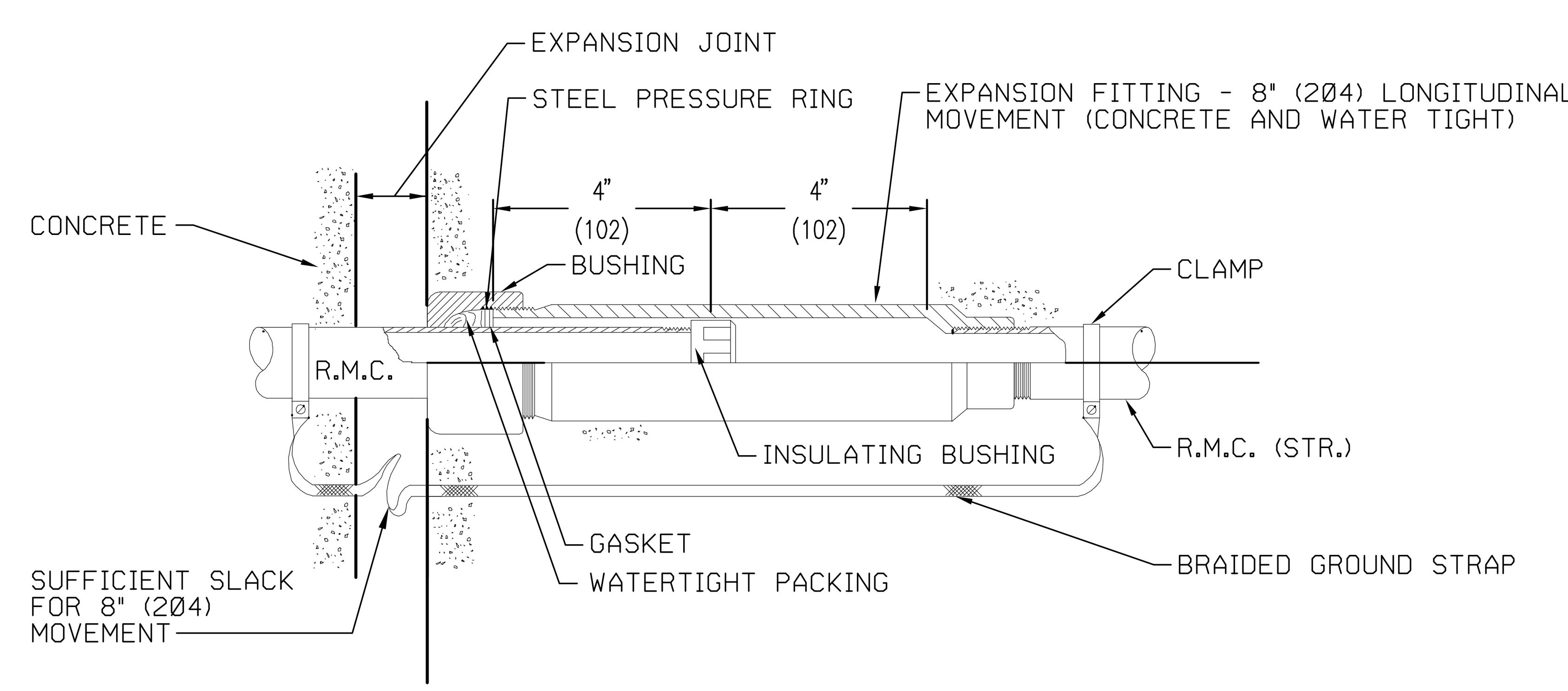
ANCHOR BOLT DIMENSION TABLE

BOLT CIRCLE DIAMETER	ANCH. BOLT DIAMETER	A	B	TYPICAL LIGHT STANDARD HEIGHT
15"	1"	36"	4"	30'

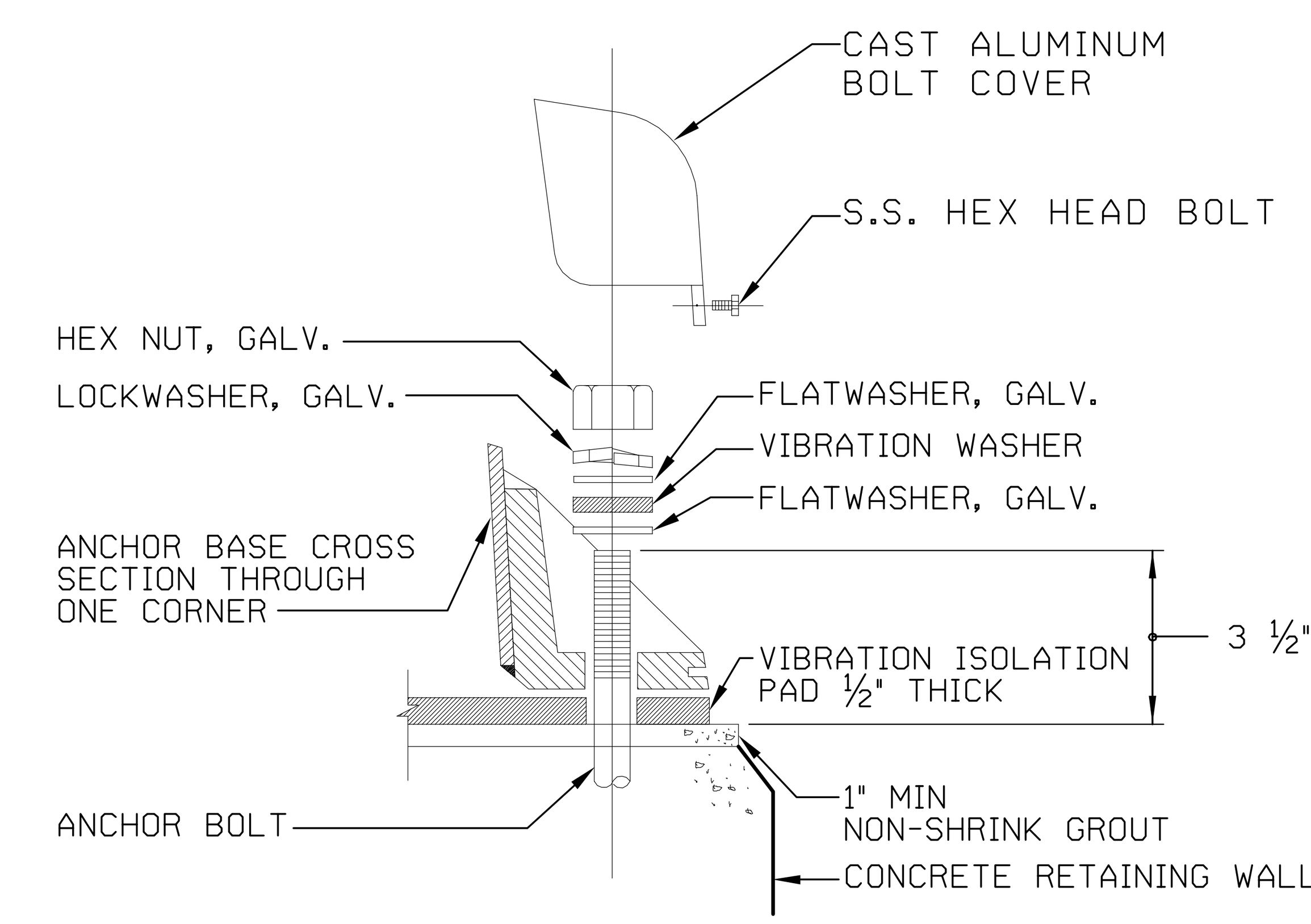
(WHERE APPLICABLE - SEE LIGHTING PLANS FOR LIGHT STANDARD HEIGHT INFORMATION)



CONDUIT ENTRY INTO CAST IRON JUNCTION BOX



EXPANSION FITTING TYPE 1



ANCHOR BASE LIGHT STANDARD MOUNTING HARDWARE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 4/2/2015

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: WSC

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: S14-503.DWG

SIGNATURE/BLOCK: STATE OF CONNECTICUT WEIYING S CHIANG No. 29848 LICENSED PROFESSIONAL ENGINEER

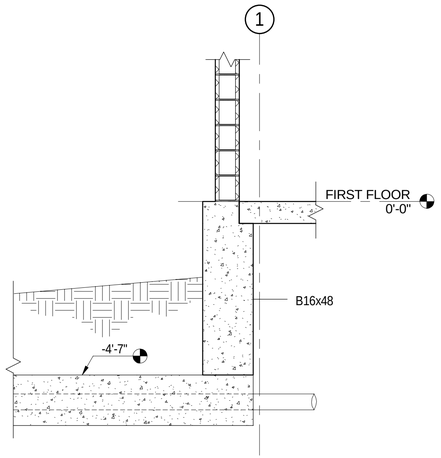
PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE: NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

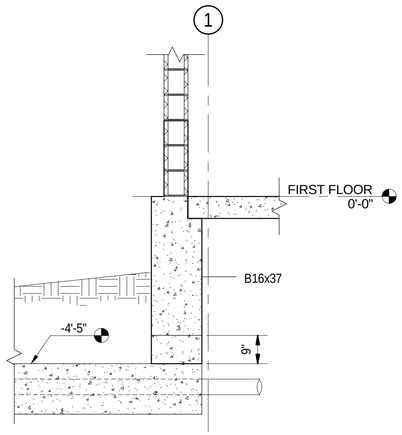
TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL RELATED ELECTRICAL DETAILS

PROJECT NO: 301-0124
DRAWING NO: S14-503
SHEET NO: 09.36



1 S14-102 SECTION
1/2" = 1'-0"



2 S14-102 SECTION
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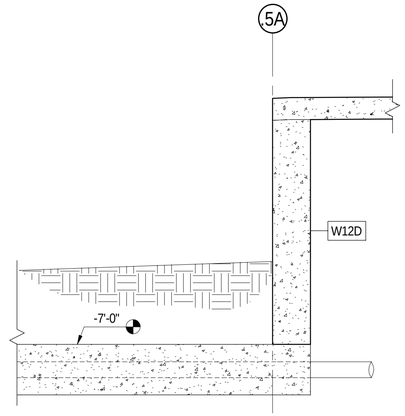
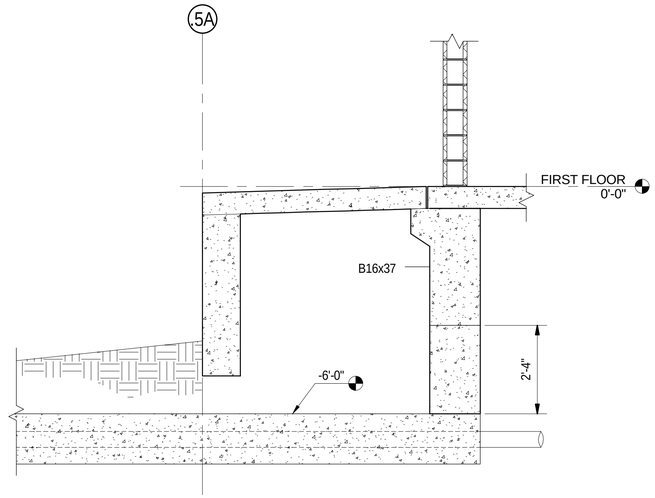


3 S14-101 SECTION
1/2" = 1'-0"



4 S14-101 SECTION
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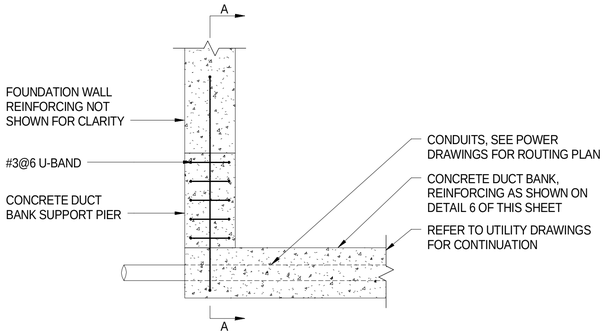
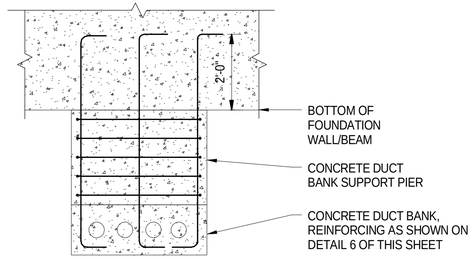
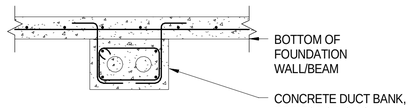


HUNG CONDITION

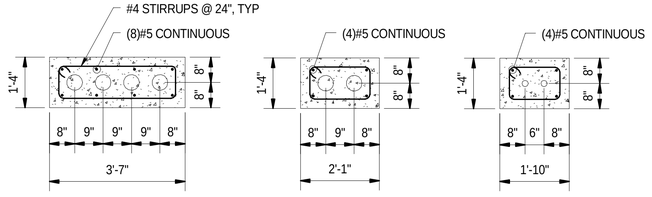


A-A



UNDERSLAB CONDITION

5 TYPICAL DUCT BANK SUPPORT AT FOUNDATION
1/2" = 1'-0"



4-5" DUCT BANK

2-5" DUCT BANK

2-2" DUCT BANK

6 CONCRETE DUCT BANK DETAILS
1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 03/30/15

DESIGNER/DRAFTER: DLH
CHECKED BY: SWC
SCALE: 1/2" = 1'-0"
0 1' 2' 4'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE BLOCK: STATE OF CONNECTICUT · STEVEN S. CRUISE · No. 25868 · LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS
MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL DUCT BANK TIE INTO BUILDING FOUNDATION

PROJECT NO: 301-0124
DRAWING NO: S14-504
SHEET NO: 09.37

4/2/2015 1:07:21 PM
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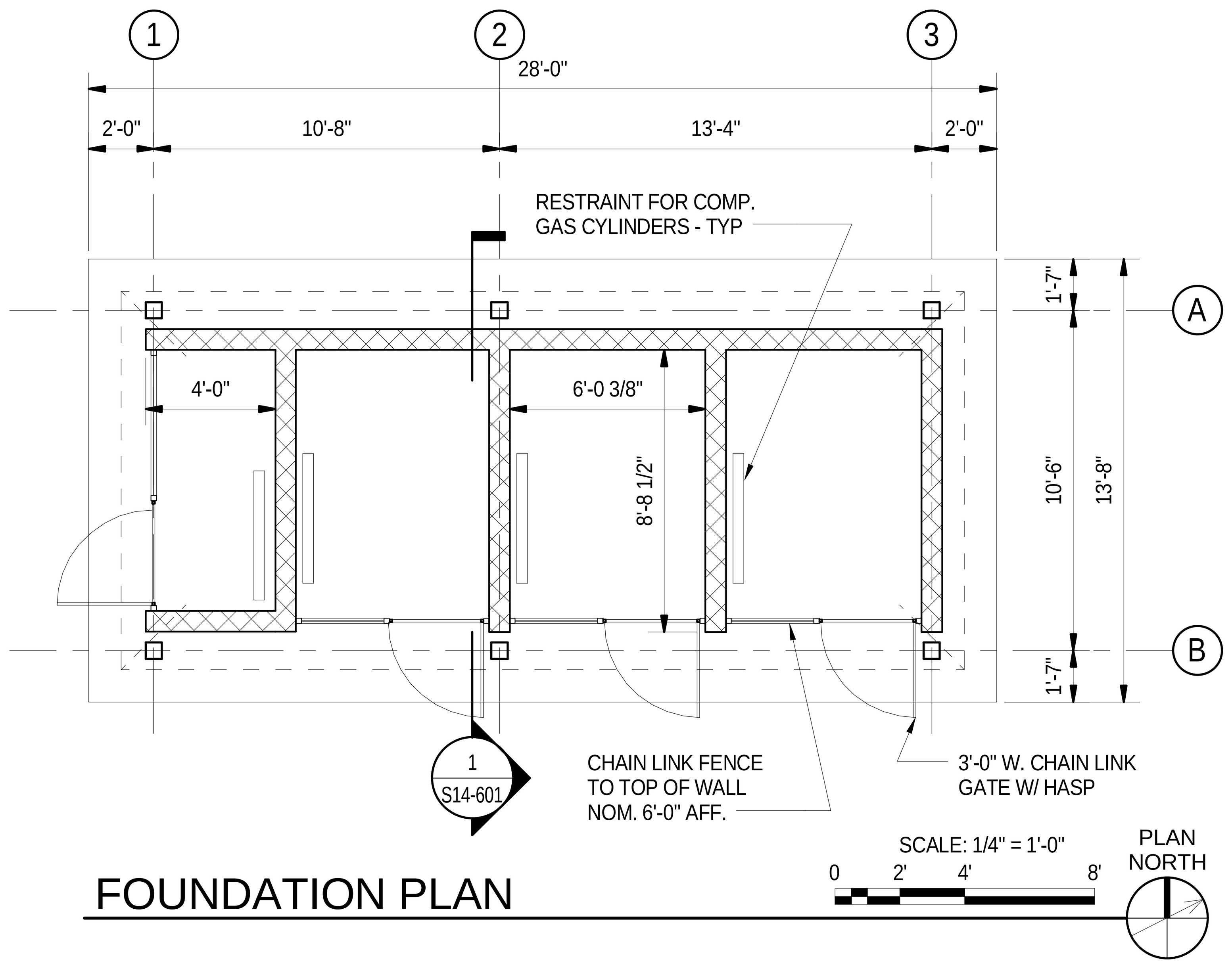
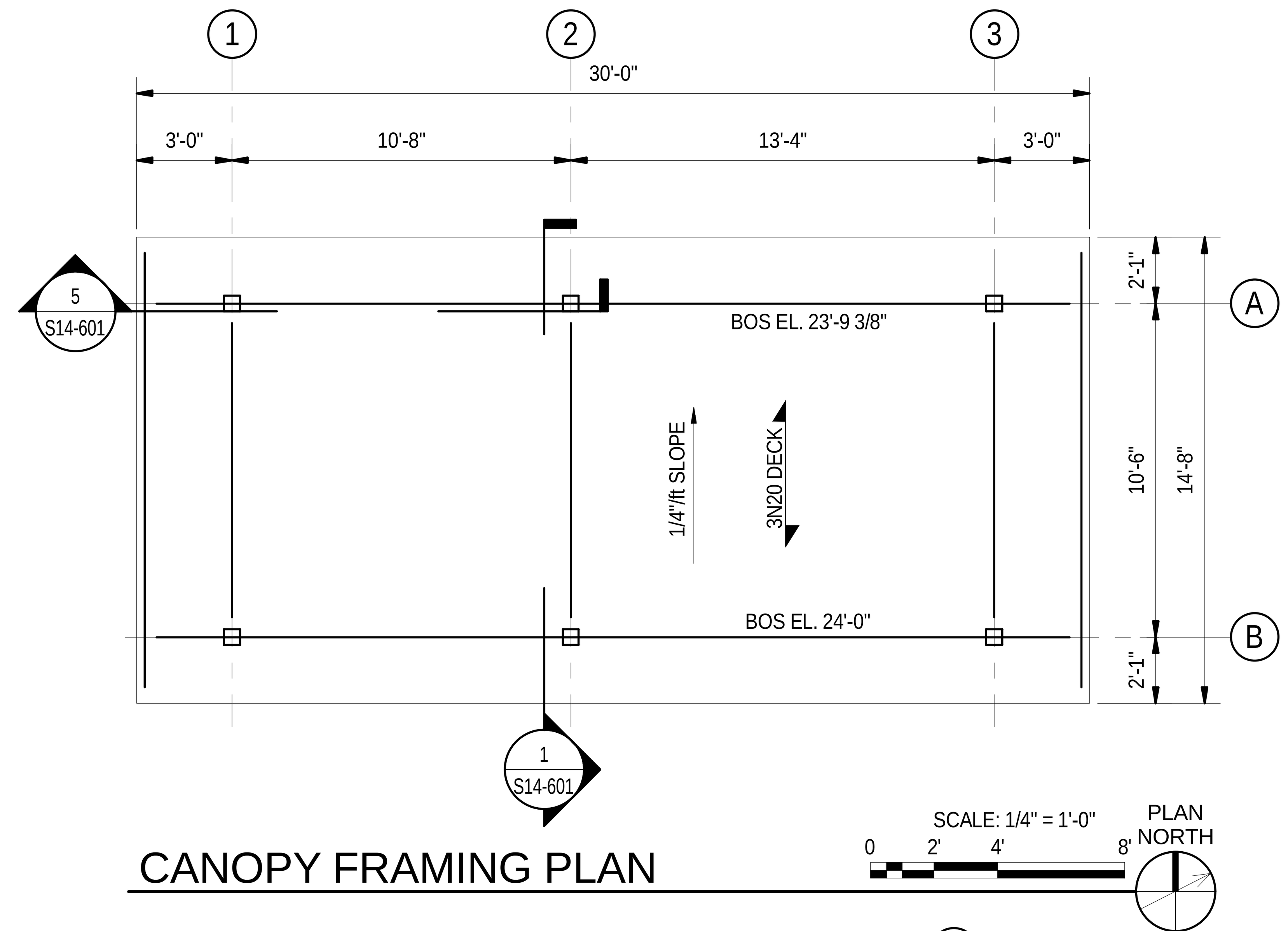
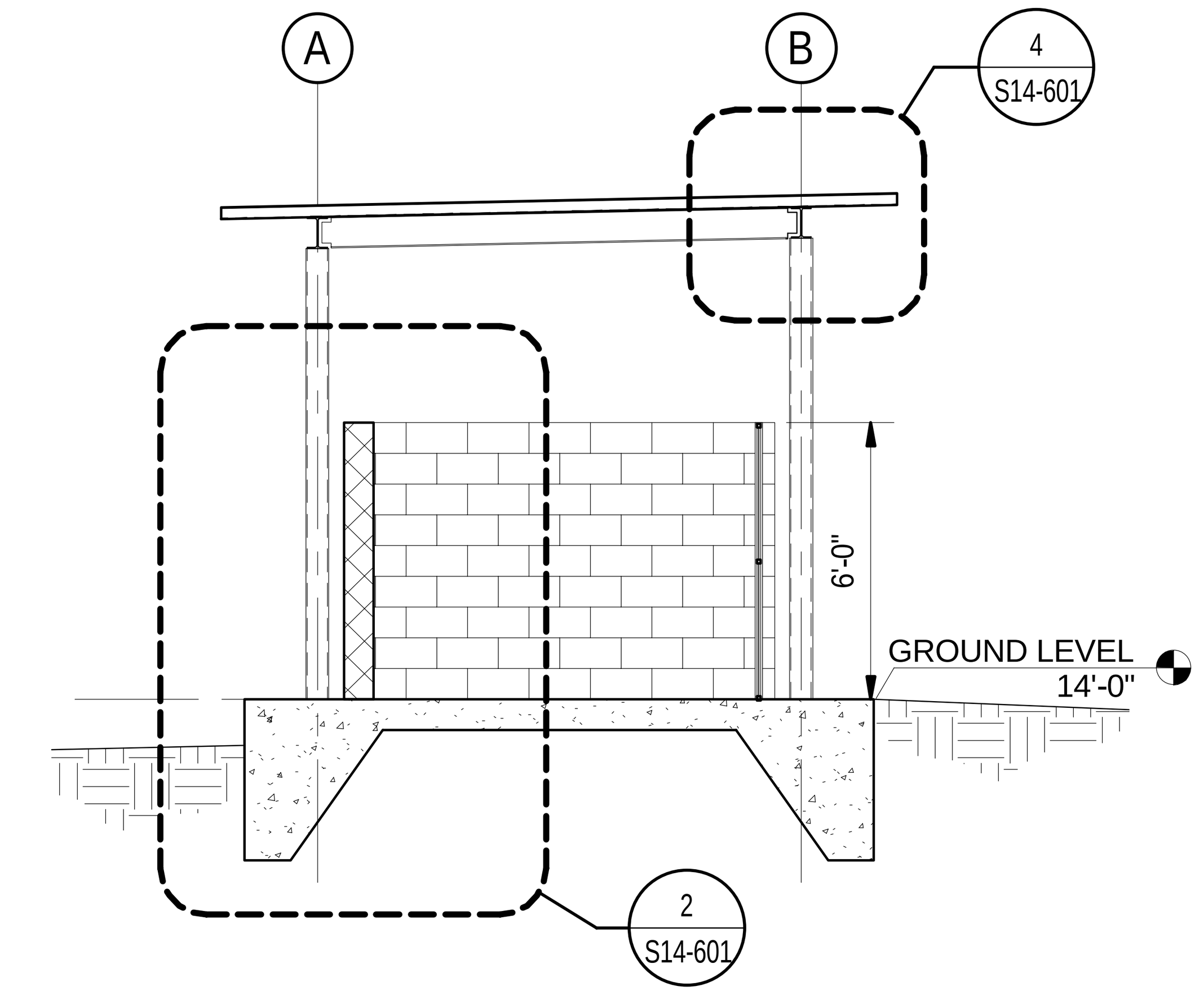
NOTES:
1. THE CYLINDER STORAGE SHELTER HAS 4.22 SQ.FT. OF VENT AREA PER 15 CU.FT. OF ROOM VOLUME.
2. THE TOTAL FOOT PRINT OF THE CYLINDER STORAGE SHELTER IS 382.66 SQ.FT.



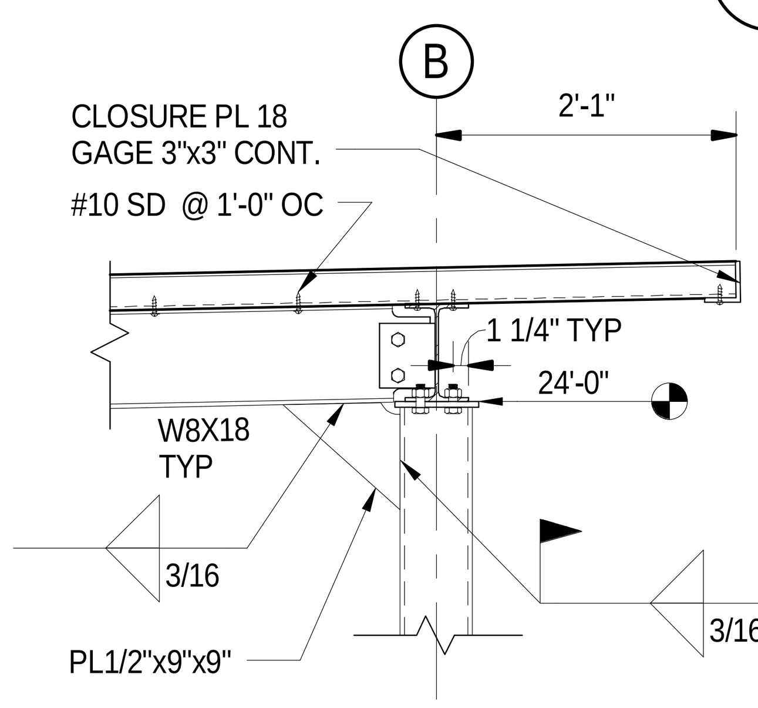
FOUNDATION PLAN



CANOPY FRAMING PLAN

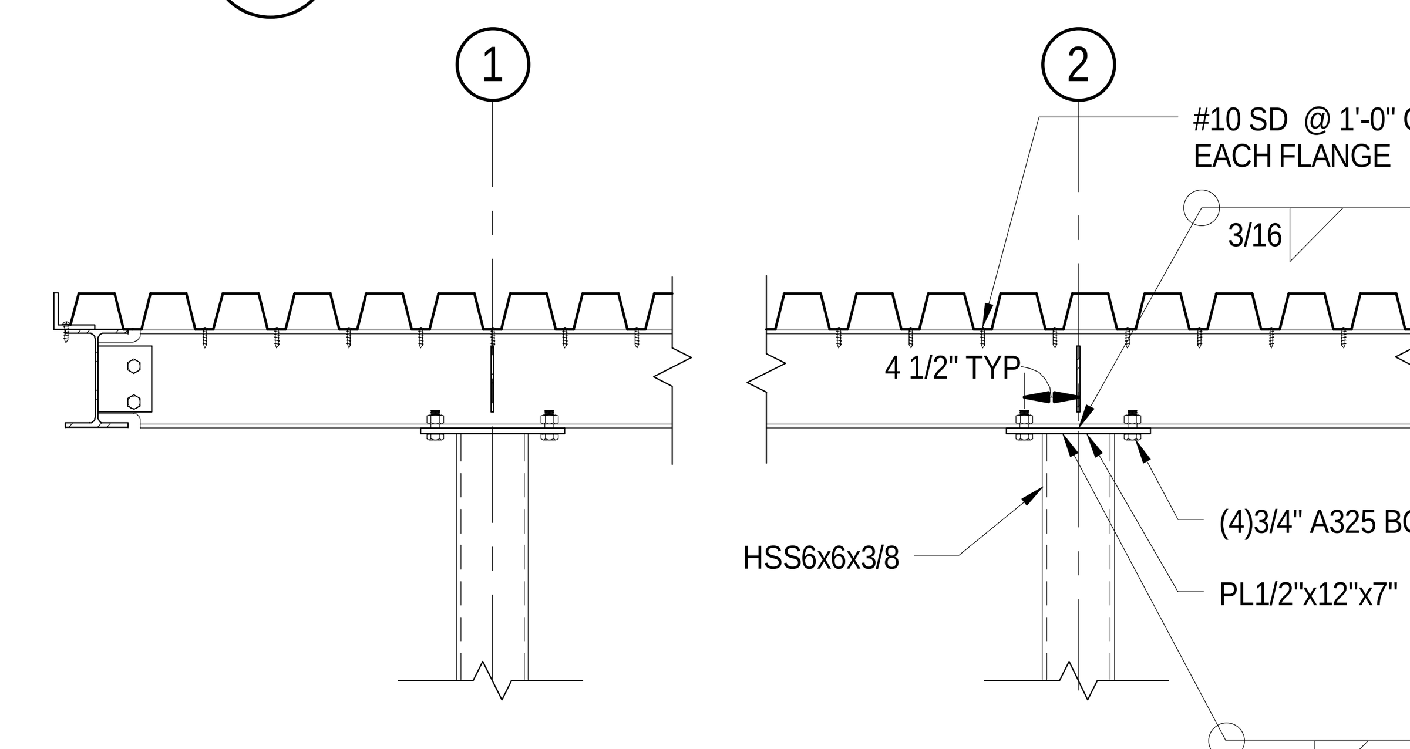


1 S14-601 SECTION



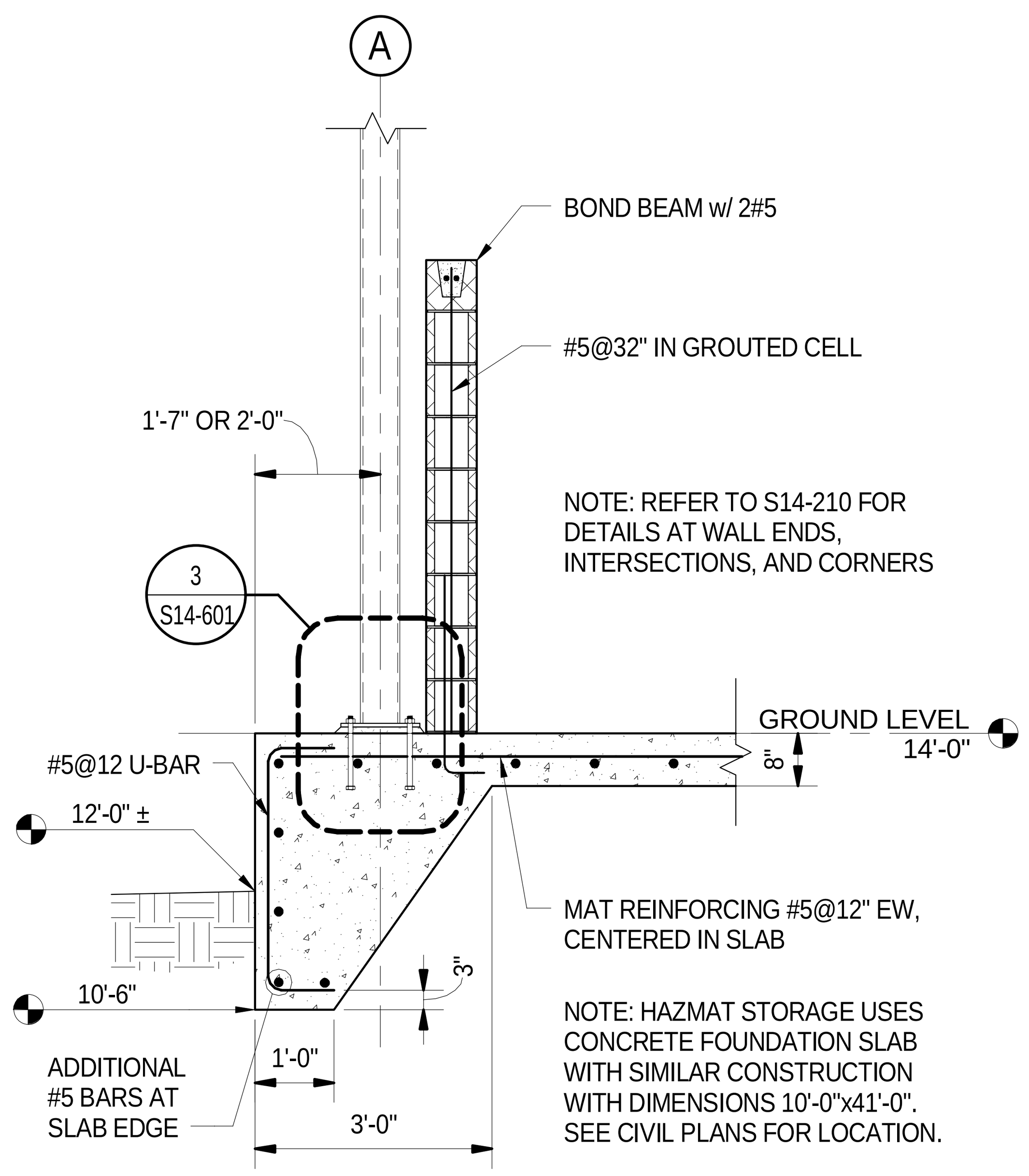
4 S14-601 DETAIL

SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'

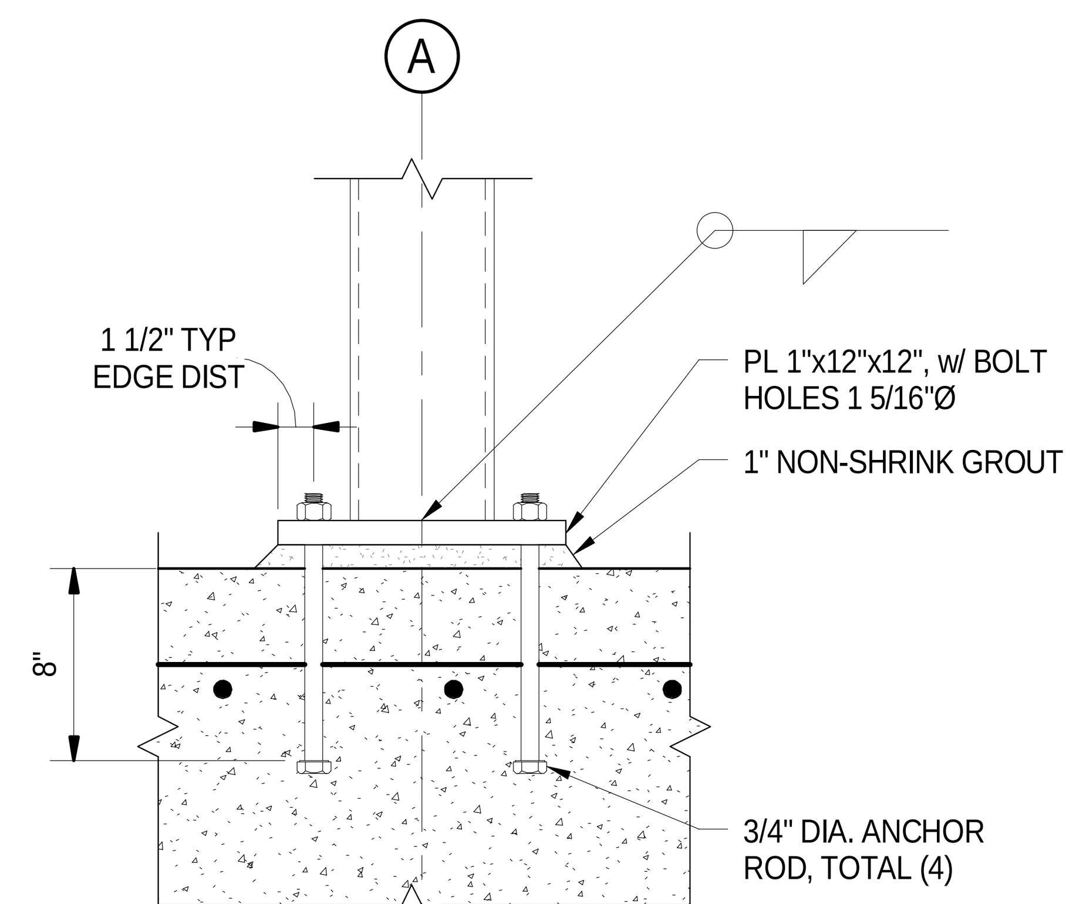


5 S14-601 DETAIL

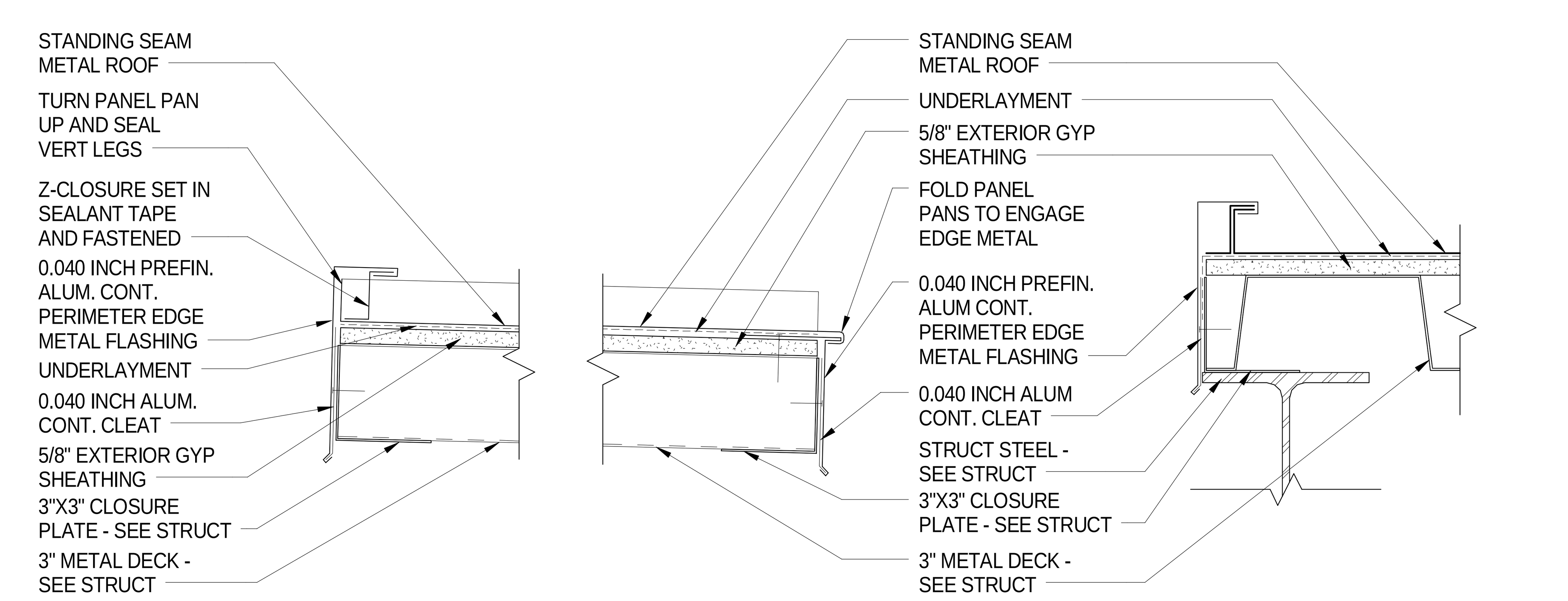
SCALE: 3/4" = 1'-0"
0 9" 1'-6" 3'



2 S14-601 DETAIL



3 S14-601 DETAIL



6 S14-601 CYLINDER STORAGE ROOF DETAILS

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 09/25/14

DESIGNER/DRAFTER: SPV/DLH
CHECKED BY: SWC
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: MOWBLDG-S-18965MOW.RVT

SIGNATURE/BLOCK: STATE OF CONNECTICUT, WEIYING S CHIANG, No. 29848, LICENSED PROFESSIONAL ENGINEER

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA

PROJECT TITLE:
NEW HAVEN RAIL YARD FACILITIES IMPROVEMENTS MAINTENANCE OF WAY BUILDING

TOWN: NEW HAVEN

DRAWING TITLE: STRUCTURAL PLANS & DETAILS - CYLINDER STORAGE

PROJECT NO: 301-0124
DRAWING NO: S14-601
SHEET NO: 09.38

4/1/2015 5:07:54 PM
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